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ABSTRACT

A study was undertaken to analyze the nature of selected conditions and requirements of doctoral programs in the field of education in order to identify areas needing improvement, to reveal distinctive practices which show promise, and to project future doctoral production in the field. Questionnaires were completed by administrators at 81 of the 92 universities and colleges granting doctoral degrees in education during the 2-year period, 1956-1958. Data tabulation included establishment of relationships between the Ed.D. and Ph.D.; private and public institutions; high and low degree producers; and programs administered by colleges of education and graduate colleges. Findings included general information on 65 Ph.D. and 75 Ed.D. programs in the 92 institutions (56 of them publicly and 36 privately controlled); on their recent production of doctoral graduates in education; on admissions requirements; curricular requirements; related conditions (recruitment, finance, housing, dropouts); and on projected production and anticipated changes. Conclusions were drawn regarding such factors as structured versus flexible programs, overspecialization, expected curricular modifications, supply and demand in various areas of subject concentration; age requirements for admissions; need for selective recruitment; financial aid; effect of institutional controls on program length. (Findings, conclusions, and recommendations for further study are included. SP 004 599, SP 004 600, SP 005 602, SP 004 603, and ED 010 188 are related documents.) (JS)

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THE DOCTORATE IN EDUCATION

An Inquiry into Conditions Affecting Pursuit of the Doctoral Degree in the Field of Education

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
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VOLUME II -- THE INSTITUTIONS

prepared for

The Committee on Studies
and
The Subcommittee on Faculty Personnel
of
The American Association of Colleges for Teacher Education

by

Harold E. Moore
John H. Russel
Donald G. Ferguson

SP004601

THE AMERICAN ASSOCIATION OF COLLEGES FOR TEACHER EDUCATION

1960

The American Association of Colleges for Teacher Education

The American Association of Colleges for Teacher Education, an autonomous department of the National Education Association, is a national voluntary association of colleges and universities organized to improve the quality of institutional programs of teacher education. All types of four-year institutions for higher education are represented in the present membership. These include private and church-related liberal arts colleges, state teachers colleges, state colleges, state universities, private and church-related universities, and municipal universities. The teacher-education programs offered by the member institutions are varied. Only one uniform theme dominates the AACTE--the dedication to ever-improving quality in the education of teachers.

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FOREWORD

The Committee on Studies of The American Association of Colleges for Teacher Education takes pride in transmitting to the membership this outstanding study of the conditions which affect the pursuit of the doctoral degree in the field of education. This publication reflects the basic concern of AACTE institutions for the source of future professional leaders, and it is expected that these data will be of real benefit in the analysis of the problem of increasing the supply of well-qualified teacher education faculty.

This study was first conceived and implemented by the late B. L. Dodds, dean of the College of Education, University of Illinois, and past chairman of the Studies Committee of the AACTE. Through his dedicated efforts and those of the Subcommittee chairman, Harold E. Moore, director of the School of Education, University of Denver, Denver, Colorado, the facilities and some of the personnel of these two institutions were made available to spearhead this study. The Association is deeply indebted to the members of the Subcommittee on Faculty Personnel for Teacher Education who guided the total study. The effort and initiative of these people, combined with the cooperation of the participating institutions and the recipients of the doctoral degree, made the successful completion of this study possible.

Harold E. Hyde
Chairman,
Committee on Studies, 1959-60

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PREFACE

The institutional phase of An Inquiry into Conditions Affecting Pursuit of the Doctoral Degree in the Field of Education was conducted under the auspices and with the financial support of The American Association of Colleges for Teacher Education. The direction of the study was assigned to the Subcommittee on Faculty Personnel for Teacher Education by the Committee on Studies. The graduate phase of the Inquiry, conducted at the University of Illinois, was a related project and is reported under separate cover. The two phases had many points of contact, which will be established in a third publication to be released at a later date.

The institutional phase was prepared and written on the basis of data collected and analyzed by staff members of the School of Education, University of Denver: namely, Dr. Harold E. Moore, director; Dr. John H. Russel, associate professor; and Donald G. Ferguson, assistant professor.

No greater contribution was made to this study than that of the 81 administrators who completed the extensive, time-consuming Administrators Questionnaire and the 289 administrators who completed the Supplementary Questionnaire. The 89-percent response to the Administrators Questionnaire and the 99-percent response to the Supplementary Questionnaire were most gratifying. To these respondents, the AACTE and all individuals closely connected with the study are most grateful.

Invaluable assistance was provided during every stage of the study by the staff of the central office of AACTE and especially by: Edward C. Pomeroy, executive secretary; William E. Engbretson, associate secretary at the outset of the study; and Paul M. Allen, associate secretary for research and studies during the final stages.

Harold E. Moore
John H. Russel
Donald G. Ferguson

University of Denver

Denver, Colorado
April 1960

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Chapter I

NATURE AND DESIGN OF THE STUDY

American higher education has been said to be entering a "decade of decision." Prominent among the reasons for this observation has been the growing problem of supplying an adequate number of qualified faculty personnel in colleges and universities to meet the present and projected influx of students. Teacher education, as an integral part of American higher education, has not been exempt from this national concern.

Inherent in this problem has been the question of whether or not the need for faculty personnel will be met in sufficient quantities with qualified doctoral graduates. Here again, teacher education has been included.

Beyond the concern for an ample supply of doctoral graduates for college teaching positions during the decade ahead, the whole field of professional education has looked to the future with reservations regarding the adequacy in both numbers and quality of the persons assuming leadership roles following receipt of the doctorate.

In this matrix of serious considerations and searching questions about the immediate future of doctoral preparation in education, this study found its setting.

The study was undertaken to analyze the nature of selected conditions and requirements of doctoral programs in the field of professional education for the purpose of identifying areas needing improvement. At the same time, it was hoped that the study would reveal distinctive and interesting practices that have been implemented in doctoral programs and that show promise of becoming positive modifications in the administration of advanced graduate education. In addition, the study was undertaken to provide a look at the possible future of doctoral production in the field.

Primarily, this study was intended to reveal normative tendencies among the institutions participating. It was not basically meant to be evaluative as much as revelatory of areas needing attention in light of what appeared to be weaknesses in doctoral education. Wherever evaluative interpretations of data appeared in this report, they were made in the spirit of inquiry, rather than as an attempt to provide "answers," and in the spirit of provoking thought, rather than solving problems. Throughout the study, it was assumed that there was nothing sacrosanct about doctoral programs in education; any well-intentioned criticism would be better than an unqualified defense of the status quo.

METHOD OF PROCEDURE

Because of the direct relationship this study had to teacher education, its sponsorship was assumed by The American Association of Colleges for Teacher Education. The study was designed and carried out by the Committee on Studies of the AACTE and the Subcommittee on Faculty Personnel for Teacher Education. The Association keenly felt a need for drawing together valuable data which could serve as guidelines for institutions considering the expansion of their graduate offerings to include doctoral study. It was also the intention of the Association to provide existing programs with a background for self-evaluation.

An Inquiry into Conditions Affecting Pursuit of the Doctoral Degree in Education was a two-phase study. The doctoral graduate phase was developed through a questionnaire sent to recipients of the degree. This phase was conducted by the University of Illinois and was reported separately. The institutional phase also made use of a questionnaire, which was completed by administrators at institutions granting doctoral degrees in education during the two-year period, 1956-58. This phase was conducted at the University of Denver. The synthesis of the two phases remains to be completed.

In some instances, the number of graduates reported for the two phases of the study were slightly different. All figures for the participating universities in the institutional phase were drawn directly from the questionnaire responses. Whatever differences resulted from divergent reporting procedures had little or no effect on the rank positions of the various items that were similar in nature in both phases of the study.

The Participants

With the assistance of the offices of the AACTE, 92 universities and colleges in the United States were identified as offering doctoral programs in education. A list of these institutions appears in Table A in the Appendix. The printed source for identifying the participants was Earned Degrees Conferred by Higher Educational Institutions.1/

1/ Rice, Mabel C., and Carlson, Neva A. Earned Degrees Conferred by Higher Educational Institutions, 1955-56. U. S. Department of Health, Education, and Welfare, Office of Education, Circular 499. Washington, D. C.: Superintendent of Documents, Government Printing Office, 1957. p. 65-89.

Letters were mailed to each of these institutions to encourage their participation in the study. Only one indicated an unwillingness to receive a survey report form.

The Questionnaire

A tentative questionnaire in five parts was written, pertaining to all salient conditions and selected basic requirements that commonly affect the pursuit of doctoral study in education. The Subcommittee on Faculty Personnel of the AACTE, in two group sessions and on an individual basis through correspondence, made valuable suggestions for the improvement of the survey form.

The questionnaire was mailed in November 1958. Follow-up letters were sent in January and March 1959, urging institutions to return their questionnaires. By the deadline on June 15, 1959, 81 institutions had responded.

In July 1959, a total of 291 institutions were identified as granting master's degrees in education, but not the doctorate. A brief Supplementary Questionnaire was sent to them to ascertain how many had definite plans for extending their graduate offerings in education to include doctoral programs during the decade ahead. By the deadline for this latter questionnaire in October 1959, all but two institutions had returned their reports.

Catalog File

A file of current catalogs and bulletins from the 92 institutions known to offer the doctorate was maintained to clarify information pertaining to admissions and curricular requirements covered by the questionnaire. The survey instrument served, however, as the final authority in the few instances where responses from the institutions seemed to conflict with catalog information.

Treatment of the Data

The data were manually tabulated and reported in a manner that would reveal normative tendencies and make over-all descriptions possible. At the same time, relevant interrelationships were established between geographic regions, between the two different doctorates in education--Doctor of Education and Doctor of Philosophy, between private and public institutions offering these degrees, between high and low producers of each degree, and between doctoral programs administered by the college of education and graduate college.

Contrasts and comparisons between the high and the low producers necessitated consideration of a time factor. Since recency of program establishment was assumed to have an effect on the production of a low number of graduates, the 18 low Ed.D. degree producers and the 18 high Ed.D. degree producers used in analyses included no institution which had begun granting the degree after 1953. The cutoff date for the Ph.D. degree was 1950.

Comparisons relative to administrative control of the degrees--graduate college or college of education--were limited almost entirely to the Ed.D. degree, since the Ph.D. degree in education was in most cases controlled by the graduate college, leaving very little basis for comparison.

This study was committed to a policy of withholding the names of institutions in relation to practices, requirements, or conditions that would tend to reflect unfavorably upon any particular university or its staff members.

Anticipating Changes

The basic questionnaire requested a notation of any anticipated changes relative to each condition and requirement included. Those changes reported were integrated in the individual analysis of each condition and requirement, along with tabular presentations and interpretive remarks.

Distinctive Practices

Several institutions reported interesting innovations in the administration of their doctoral programs; these patterns are reported in reference to the condition or requirement most affected. Occasionally, these practices were found to be working adequately on several campuses. When only one institution is cited as attempting something new and different, such a reference serves only to illustrate practices which may be relatively widespread. It should not be inferred that the citation of any one institution in this regard means more favorable endorsement of the practice on that campus.

The Projection

A section of both questionnaires requested that the respondents estimate the number of doctoral graduates their institutions might be expected to produce in the next decade. This permitted a reflection by each respondent on plans for expansion. The quantitative aspects of the projection were not necessarily the primary purpose of this feature. Actually, the projection was an effort to obtain some index of willingness and intention to expand and to see in what areas of concentration future production might be offered.

The estimates contributed by the respondents were interrelated according to various classificatory schemes: private and public institutions, Ed.D. and Ph.D. programs, and geographic location.

Chapter II

GENERAL INFORMATION ON INSTITUTIONS OFFERING THE DOCTORATE IN EDUCATION

As indicated in the preceding Chapter, 92 institutions were identified through published sources as having granted doctoral degrees in education during the academic year 1955-56. All of these institutions continued to grant the doctorate during the years 1956-58, the two-year period chosen for study purposes.

Ninety-one of the colleges and universities indicated a willingness to co-operate in the study and, as a result, were sent questionnaires. Ten institutions, however, did not return their questionnaires; consequently, the major portion of the analyses in the study was based on 81 participating institutions. Wherever data were available on the total group of 92 institutions, this information was also included. Data on nonparticipating colleges and universities proved useful only in this section on general information and in the following section on recent production. A summary of general information is given in Table A in the Appendix.

Wherever reference is made in Chapters II and III to the total group, all 92 institutions are included; reference to the participating group includes only the 81 institutions which returned questionnaires.

THE TOTAL GROUP

Types of Institutions

According to Table 1, the most prominent type of institution among the total group was the state university, of which there were 49, constituting 53.3 percent of the total. There were 34 private universities, which made up 36.9 percent of the total. Of the remaining nine institutions, five were state general colleges, two were municipal universities, one a state teachers college, and one a private teachers college.

TABLE 1.--TYPES OF INSTITUTIONS AMONG TOTAL GROUP

Type of institution	Number	Percent
1	2	3
State university.	49	53.3%
Private university.	34	36.9
State general college	5	5.4
Municipal university.	2	2.2
State teachers college.	1	1.1
Private teachers college	1	1.1
Total	92	100.0%

Degrees Offered

In 92 institutions, there were 75 Ed.D. programs and 65 Ph.D. programs. As indicated in Table 2, 48, or over one-half of all the institutions, offered both degrees; 27 offered only the Ed.D. degree; while 17 offered only the Ph.D. degree. There was little difference between private and public institutions relative to the percentage that offered the Ed.D. degree; 82.5 percent of the publicly controlled institutions offered this degree, as compared to 80 percent of the privately controlled institutions. There was greater difference in this regard relative to the Ph.D. degree in education. The Ph.D. degree was offered in 80 percent of the privately controlled institutions, as compared to 64.9 percent of the publicly controlled colleges and universities.

Thirty-seven institutions, or 40.2 percent of the total group, offered organized sixth-year programs which led to some form of degree, diploma, or certificate of specialization. Of the public institutions, 38.5 percent offered sixth-year programs; a slightly higher percentage (42.8) of the private institutions included sixth-year programs. There were, of course, additional sixth-year programs in institutions that did not offer doctorates in education. A list of all institutions known to offer sixth-year programs is given in Table B in the Appendix.

TABLE 2.--DEGREES OFFERED BY INSTITUTIONS IN TOTAL GROUP

	Public institutions		Private institutions		Total	
Degrees offered	Number	Percent	Number	Percent	Number	Percent
1	2	3	4	5	6	7
Ph.D. only	10	17.5%	7	20.0%	17	18.5%
Ed.D. only	20	35.1	7	20.0	27	29.3
Both Ed.D. and Ph.D.	27	47.4	21	60.0	48	52.2
Total	57	100.0%	35	100.0%	92	100.0%

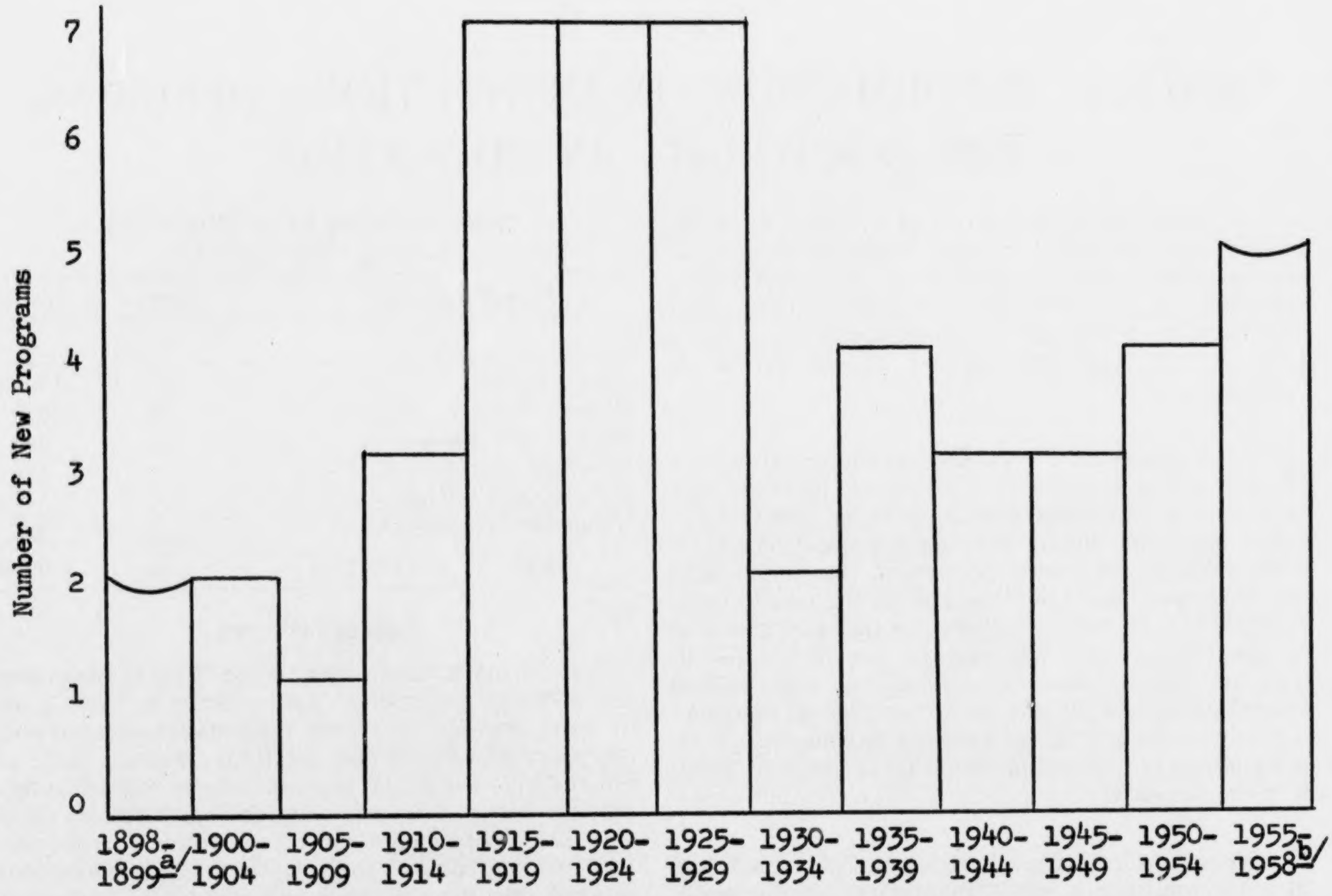

FIGURE I.--GROWTH OF PH.D. PROGRAMS IN EDUCATION IN FIFTY INSTITUTIONS, 1898-1958[c]

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[a] This time span is less than five years, since the first Ph.D. program in continuous existence was not begun until 1898.

[b] This time span is less than five years, since this study did not include data on programs after 1958 except in Chapter VII.

[c] Includes Ph.D. programs that have continued in force to the present. Unfortunately, dates were not available on fourteen institutions that granted Ph.D. degrees during 1956-58. Also not included was Boston University, which had not yet granted a Ph.D. in education, although such a program was offered. All other institutions that granted degrees during 1956-58 are shown above.

Growth of Ph.D. Programs

The first doctorate known to have been granted by a university division of education was awarded by Clark University in 1891; this was a Ph.D. degree. The program at Clark has not continued up to the present time, however.

During the 69 years since the Ph.D. degree was first granted in the field of education, several other institutions have established programs that were discontinued. Two institutions among the total group reported that at one time they had offered Ph.D. degrees, but more recently restricted their education doctorates to the Ed.D. degree. These institutions were Colorado State College and the University of Georgia. The extent of influence which the newer degree (the Ed.D.) had upon the discontinuance of the Ph.D. in these two institutions, or in any other, is unknown. Certainly, at the outset of the Ed.D. program it tended to subordinate the Ph.D. program in education by the very reason of its creation. This change in emphasis could have been instrumental in the actual discontinuance of Ph.D. programs in several universities.

Institutions that very recently dropped all doctoral offerings in the field of education were Yale University and the University of Delaware. Though they were still granting a few such degrees during

1956-58, they were not included in the total group considered by this study.

The oldest Ph.D. programs in education in continuous existence during the two-year study period, 1956-58, were those at Teachers College of Columbia University, and the University of California at Berkeley, both of which first granted the degree in 1898. The Ph.D. program in education was added at the University of Chicago in 1901, at the University of Michigan in 1902, and at Catholic University of America in 1906. These five universities were the only ones that had granted the degree for a period of 50 years or longer prior to the study period.

Figure I was constructed on the basis of the years in which each institution first granted the degree and included only those programs that have continued through to the present time.

Only eight institutions were granting Ph.D. degrees in education prior to 1915. Seven additional institutions began granting these degrees from 1915 to 1919, and from that time on to 1929, more Ph.D. programs were begun during each five-year period than during any comparable period since. From 1915 to 1929, 21 institutions granted the Ph.D. degree in education for the first time. It took the 30 years through 1958 for an additional 21 Ph.D. programs to be added.

From data available at the time of this study, the period of most rapid expansion, in terms of new programs, was about the time of World War I and the decade that followed.

Growth of Ed.D. Programs

During the period of greatest expansion of Ph.D. programs in education, the new emphasis on the Ed.D. degree was begun. The idea was created and originally fostered at Harvard University, which granted the first Ed.D. degree in 1921. By 1929, six Ed.D. programs still in existence in 1956-58 were operating. All but two of these programs, at the University of California at Berkeley and at Indiana University, were in private institutions. All but one institution (Temple University), interestingly enough, had granted the Ph.D. degree in education prior to the Ed.D. degree, and were still granting both degrees in 1956-58.

The first Ed.D. degrees were granted at Harvard University, Northwestern University in 1922, the University of California at Berkeley in 1924, Indiana University in 1927, Temple University in 1928, and Stanford University in 1929.

As shown graphically in Figure II, considerable expansion of the Ed.D. degree was experienced from 1930 through 1934; however, only six additional programs were begun in the next five-year period. Nine Ed.D. programs were opened up about the time of World War II, with an additional 12 coming into force during the first five-year period following the war. The most phenomenal period of growth was from 1950 through 1954, when 21 additional institutions began granting the degree. During the period 1950-54, the growth in the number of Ed.D. programs was far greater than had ever been experienced in any comparable span of time by Ph.D. programs.

THE PARTICIPATING GROUP

Types of Institutions

Among the 81 respondents to the questionnaire, the classification by types of institutions, as shown in Table 3, was, in terms of percentages, practically identical to that of the total group. Among the participating group were 43 state universities, or 53 percent, and 29 private universities, or 35.9 percent.

TABLE 3.--TYPES OF INSTITUTIONS AMONG PARTICIPATING GROUP

Type of institution	Number	Percent
1	2	3
State university.	43	53.0%
Private university.	29	35.9
State general college	5	6.2
Municipal university.	2	2.5
State teachers college.	1	1.2
Private teachers college	1	1.2
Total	81	100.0%

All of the state general colleges, municipal universities, and state and private teachers colleges from the total group participated in the study.

Degrees Offered

In the 81 participating institutions, there were 67 Ed.D. programs from among the 75 in the total group; there were 55 Ph.D. programs from among the 65 in the total group. As revealed by a comparison of Table 2 with Table 4, the participating group was representative of the total group regarding the relationships between institutions offering only one degree or the other, or both. Among the participants, as with the total group, slightly over one-half of the institutions offered both degrees. No appreciable difference existed between privately and publicly controlled institutions in regard to whether or not they offered the Ed.D. degree inasmuch as 83.3 percent of the private institutions that participated in the study offered the Ed.D. degree, while 82.4 percent of the public institutions did so. Also like the total group, the participants showed a difference relative to the Ph.D. degree, with privately controlled institutions favoring the inclusion of this degree. In the participating group, 76.7 percent of the private colleges and universities offered the Ph.D. degree, as compared to only 62.7 percent of the public institutions.

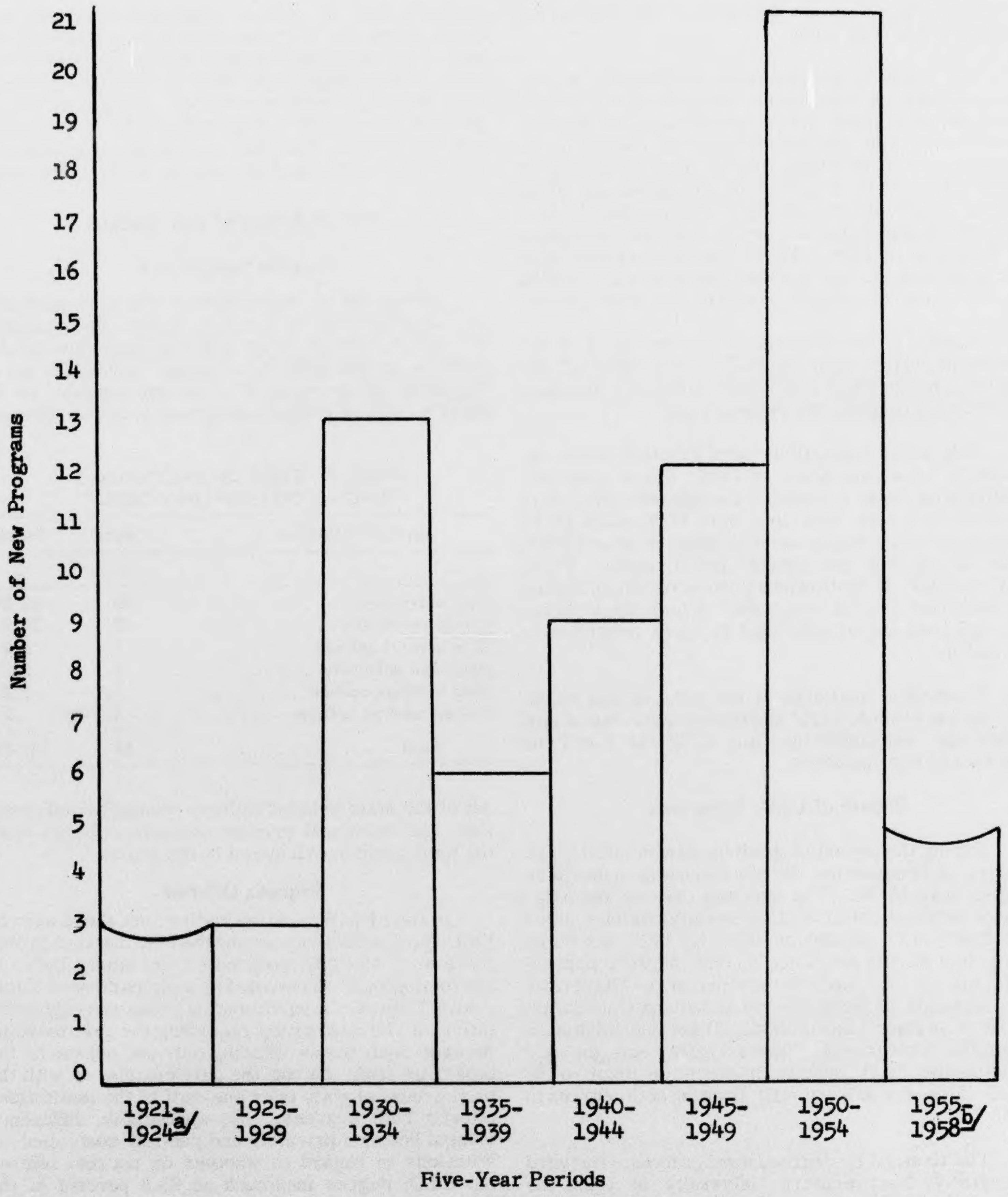

FIGURE II.--GROWTH OF ED.D. PROGRAMS IN SEVENTY-TWO INSTITUTIONS, 1921-58[c]

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[a] This time span is less than five years, since the first Ed.D. degree was not awarded until 1921.

[b] This time span is less than five years, since this study did not include data on programs after 1958, except in Chapter VII.

[c] Includes those Ed.D. programs that have continued in force to the present. Not included in this graph, although they offered the program, were St. John's University and Yeshiva University which had not granted any Ed.D.'s as of 1958. The date was not available for the University of Arkansas. All other institutions that granted degrees during 1956-58 are shown above.

TABLE 4.--DEGREES OFFERED BY INSTITUTIONS IN PARTICIPATING GROUP

Degrees offered	Public institutions		Private institutions		Total	
	Number	Percent	Number	Percent	Number	Percent
1	2	3	4	5	6	7
Ph.D. only	9	17.6%	5	16.7%	14	17.3%
Ed.D. only	19	37.3	7	23.3	26	32.1
Both Ed.D. and Ph.D	23	45.1	18	60.0	41	50.6
Total	51	100.0%	30	100.0%	81	100.0%

TABLE 5.--ADMINISTRATIVE RESPONSIBILITY FOR DOCTORAL PROGRAMS IN EDUCATION

Degree programs	College of education		Graduate college		Dual[a]		Total number of programs
	Number	Percent	Number	Percent	Number	Percent	
1	2	3	4	5	6	7	8
Ed.D.	21	31.3	39	58.2	7	10.5	67
Ph.D.	5	9.1	45	81.8	5	9.1	55

[a] Indicates joint control by graduate college and college of education.

The generalization that, as a whole, private institutions apparently tended to hold the Ed.D. degree in less esteem than did the public institutions cannot be made from these data, primarily because of the small numbers upon which percentages were based. These data also do not reflect in any way the predisposing factors that led to the decision by an institution to offer only one degree or the other. Historically, as indicated earlier, the Ed.D. degree found its earliest support among private universities.

Administrative Responsibility

The questionnaire included a checklist item on which the respondents were asked to indicate the administrative unit within the university responsible for administering the programs and awarding doctoral degrees in education. It was known, for instance, that some doctoral programs have been, in most respects, autonomously controlled by the college of education, while others have remained under the direct supervision of the graduate college. Even under the latter arrangement, it was realized that much of the ongoing administrative implementation of policies has been delegated to the college of education. Where the lines of administrative responsibility crossed so intricately that not even a subtle dichotomy existed, these programs were understood to have been administered by what could be termed a dual arrangement. Decisions regarding the pattern that best described each local situation were left to the respondents.

As a result of this analysis, a basic difference between the two degrees emerged. According to data shown in Table 5, considerably more Ed.D. than Ph.D. programs were assigned to the administrative responsibility of the college of education; Ph.D. programs were almost entirely under graduate college jurisdiction. Of the 67 Ed.D. programs in the participating group, 31.3 percent were under the administrative control of the college of education, 58.2 percent were administered by the graduate college, and the remaining 10.5 percent were administered under the dual arrangement. Only 7, or one-third, of the 21 Ed.D. programs controlled by the college of education were in public institutions.

During the study period, more candidates were graduated from programs under the control of the college of education than under the graduate college. From the 21 Ed.D. programs under the college of education, 1015 graduates, or 51.3 percent, received their degrees; 692, or 35 percent, received their degrees from the 39 graduate-college controlled programs; and the remaining 271, or 13.7 percent, were graduated from the 7 programs under the dual-administration arrangement.

Of the 55 Ph.D. programs, as few as 5, or 9.1 percent, were directly responsible to the college of education; 45, or 81.8 percent, were under graduate college jurisdiction; and the remaining 5 were administered by dual arrangement. All 5 institutions in which the Ph.D. programs were administered by the college of education were private universities. This fact, along with information about Ed.D. programs, indicated that college-of-education responsibility was more strongly favored by private institutions.

The five Ph.D. programs controlled by the college of education were highly productive, having granted 272 degrees, or 23.9 percent of the total number of Ph.D. degrees for the two-year study period. Only 28 degrees, or 2.5 percent, were granted by the five Ph.D. programs controlled by the dual-administration arrangement. The remaining

838 degrees, or 73.6 percent, were granted by the graduate college in the other 45 institutions.

Eight of the 41 institutions that offered both degrees reported that their Ed.D. programs were under regulation of the college of education, while their Ph.D. programs were graduate-college responsibilities.

No doubt patterns of administration within any one of the units analyzed differed from institution to institution; nevertheless, the purported differences between the two major sources of administrative responsibility led to the decision to interrelate data relevant to Ed.D. programs according to this comparative device. Contrasts between these two types of administration were investigated when dealing with admissions and curricular requirements described in later Chapters. These analyses were restricted to Ed.D. programs because of the unitary nature of the administrative control of Ph.D. programs.

Data were not available on the administrative arrangements in the institutions that did not return questionnaires; for this reason, no analyses or observations were made relative to the total group.

Faculty Personnel -- Total Institution

In 74 of the participating institutions, the median size of full-time faculty in all departments of the institution was 485 members -- seven institutions did not furnish data for this analysis. As shown in Table 6, nearly two-thirds of the institutions had total faculties of less than 700 members. The smallest institution employed 105 full-time faculty members. Nearly one-fourth of the institutions had less than 300 full-time faculty members, while the largest institution among the respondents had 2510. This analysis revealed one dimension of the diverse nature of the group of institutions that offered the doctorate in education.

TABLE 6.--SIZE OF FULL-TIME FACULTY IN ENTIRE INSTITUTION[a]

Full-time faculty	Number of institutions	Percent
1	2	3
100- 299	17	22.9%
300- 499	20	27.0
500- 699	11	14.9
700- 899	7	9.4
900-1099	7	9.4
1100-1299	3	4.1
1300-1499	2	2.7
1500-1699	1	1.4
1700-1899	2	2.7
1900-2099	2	2.7
2100-2299	1	1.4
2300-2499	...	...
2500-2699	1	1.4
Total.	74	100.0%

Total full-time faculty 51,139

Mean. . . . . . .691 Full-time faculty
Median . . . . .485 Full-time faculty
Range . .105-2,510 Full-time faculty

[a]Does not include laboratory-school personnel. Seven institutions did not furnish this information.

Full-Time Education Faculty

Further amplification of this diversity was revealed in the number of full-time faculty members in the education unit (see Table 7). The range here was from 7 to 152 with a median of 35 members. The largest number of full-time education faculty members within any university in the participating group was reported by Teachers College of Columbia University, which was also the highest producer of doctoral graduates during the study period.

The relationship between size of full-time education faculty and production was, however, not as clean-cut or as obvious as in the case of Columbia. A rank-order correlation of only 0.46 existed between these two factors among the participating group, indicating that some of the institutions with a smaller faculty were producing some of the larger groups of doctoral graduates and vice versa. From the point of view of available faculty members to provide course work and to serve other needs of doctoral candidates, some institutions were obviously assigning heavier graduate instructional loads than were others. While it was observed that some institutions may not have been using faculty members to the

TABLE 7.--SIZE OF FULL-TIME FACULTY IN EDUCATION UNIT[a]

Full-time faculty	Number of institutions	Percent
1	2	3
1- 14	14	18.2%
15- 29	19	24.6
30- 44	18	23.4
45- 59	11	14.3
60- 74	5	6.5
75- 89	2	2.6
90-104	5	6.5
105-119	...	...
120-134	...	...
135-149	...	...
150-164	3	3.9
Total.	77	100.0%

Total full-time education faculty. . . 3,212

Mean. . . . . 41.7 Full-time faculty
Median . . . 35 Full-time faculty
Range . . 7-152 Full-time faculty

[a]Does not include laboratory-school personnel. Four of the respondents did not provide information needed for this particular analysis.

greatest advantage, it was equally apparent that other universities may have been assigning too many doctoral candidates to faculty members. Such an observation seemed justified in view of the fact that dissertation chairmen, regular advisers, and the majority of research committee members were usually assigned from the ranks of full-time rather than part-time faculty.

According to Table 7, there were 3212 full-time faculty members in the education units of 77 responding institutions. In addition, there were 737 full-time education faculty members employed in laboratory schools. Only 29 institutions in the participating group reported having such schools on their campuses as part of the college, school, or department of education. The combined full-time faculty numbered 3949.

Of the 3949, 2311, or 58.5 percent, were identified as already having obtained a doctorate. This was somewhat higher than the usual estimated national average of 40 percent of university faculty members holding the doctorate.

It was assumed that the majority of graduate instruction of doctoral candidates in these institutions was provided by professors with doctorates themselves. Consequently, the burden of doctoral education in the 77 responding institutions apparently rested upon the shoulders of 2311 full-time faculty members. In 13 institutions there were less than 10 education faculty members in each who held the doctorate, a factor which in itself probably contributed to somewhat lower doctoral production by these institutions. In fact, 6 of the 13 produced 5 or less doctoral graduates in education during the two-year period. And yet, 2 of the 13 institutions produced 23 and 30 doctoral graduates respectively. The median number produced during the two-year period by all institutions was 21 (see Table 9). Here again, the question could be raised regarding the optimum number of doctoral candidates assigned to faculty members.

Of the total 3949 full-time education faculty members (including laboratory-school personnel) in the 77 responding institutions, 266, or 6.7 percent, were pursuing a doctorate in the institution where they were employed; these 266 individuals were employed in 47 different institutions. One of the institutions reported that such a practice was not permitted by university policy, which was probably true in other universities also. In addition to those working on doctorates in the institution of their employment, 148 were working on doctorates at other colleges or universities. In other words, there were 414 doctoral candidates listed as full-time faculty personnel in the participating group.

Part-Time Education Faculty

In addition to 3949 full-time education faculty members (including laboratory-school personnel), there were 1391 part-time faculty members in the education units in the 77 institutions which responded to this particular inquiry. According to Table 8, the median number of part-time faculty members in education was 10, with seven institutions reporting none and one reporting as many as 174. The following breakdown includes the disposition and degree description of these part-time faculty members:

1. Total education part-time faculty = 1,547
    a) Part-time faculty in education unit 1,391
    b) Additional part-time faculty in laboratory schools 156
2. Number who were full-time employees of other departments of the university = 430
3. Number pursuing doctorates at the institution of their employment = 202
4. Number pursuing doctorates at a university other than their place of employment = 37
5. Number already having a doctorate = 485

TABLE 8.--SIZE OF PART-TIME FACULTY IN EDUCATION UNIT[a]

Part-time faculty	Number of institutions	Percent
1	2	3
0	7	9.1%
1- 14	44	57.1
15- 29	12	15.6
30- 44	8	10.4
45- 59	3	3.9
60- 74	1	1.3
75- 89	...	...
90-104	...	...
105-119	...	...
120-134	1	1.3
135-149	...	...
150-164	...	...
165-179	1	1.3
Total.	77	100.0%

Total part-time education faculty . . 1,391

Mean . . . . 18.1 Part-time faculty
Median . . . 10 Part-time faculty
Range . . . 0-174 Part-time faculty

[a] Does not include laboratory-school personnel. Four of the respondents did not provide information needed for this analysis.

It is apparent from the above breakdown that less than one-third of the part-time faculty members used in education were from other departments within the universities involved. Also, an appreciably lower percentage of the part-time faculty in education held the doctorate than obtained for the full-time faculty--only 31.3 percent as compared to 58.5 percent--indicating that the majority of part-time faculty members probably did not engage in graduate instructional roles responsible for doctoral candidates.

There were, then, approximately 5500 combined full- and part-time education faculty members (including laboratory-school personnel) in 77 of the 81 participating institutions. Of these, nearly 2800, or 51 percent, were holders of the doctorate. Approximately 700, or 13 percent, were doctoral candidates either at the university where they were employed or at another institution. Over two-thirds of these 700 were working toward their doctorates at the institution of their employment, and more were classified as full-time members than as part-time.

Chapter III

RECENT PRODUCTION OF DOCTORAL GRADUATES IN EDUCATION

This Chapter was organized in a manner similar to Chapter II, in that analyses related only in part to the total group of institutions that offered degrees during the study period 1956-58. The participating group in this section included only 80 institutions because one of the questionnaire returns did not include data on recent production.

Wherever published sources were available on nonparticipants regarding production, data were derived to supplement questionnaire responses, thereby giving as inclusive a picture of production during the two-year period as possible. No printed sources were available to provide information by areas of concentration; therefore, these analyses were restricted to the 80 questionnaire returns.

THE TOTAL GROUP

Figure III shows the number of doctoral graduates in education during representative years over the 69-year span since the first degree was awarded in 1891. By 1920, approximately 60 degrees were being awarded annually. With the coming of the Ed.D. degree in 1921 and the continued expansion of Ph.D. programs, there was a notable increase in annual doctoral production. By 1930, approximately 300 degrees were being awarded annually, and by World War II, there were about 500 degrees earned each year.

According to Figure III, the sharpest increase since 1930 in annual doctoral production in education came after 1950. From 1950 to 1954, production increased by 73.9 percent. This was, in part, attributable to the increase in the number of new programs. During the five-year period 1950-54, it should be recalled, 21 new Ed.D. programs began operation; in addition, 4 new Ph.D. programs were added during this period. Since 1956, there has been an increase of over 200 doctoral degrees each year.

As shown in Figure IV, the only time during the past decade when the growth line showed even a slight decrease was between 1954 and 1955. This decrease resulted from a change in reporting procedures used by the United States Office of Education, the source from which production data for 1949-58 were derived.[1]

By 1958, as shown in Figure V, doctoral production in education constituted 18.3 percent of the total number of doctorates for all fields. This placed education second only to the field of physical sciences, which was responsible for 18.5 percent of the total. Biological sciences and social sciences were the only other fields that included more than 10.0 percent of the total number of doctorates.

Production During the Study Period

During the two-year period 1956-58, the median number of doctoral graduates produced by the 92 institutions was 21 with a semi-interquartile range of 20. For each of the two academic years, the median was 10 graduates, with a Q of nine (see Table 9).

There were, of course, decided extremes with Teachers College of Columbia University producing as many as 536 graduates for the two-year period, while seven institutions produced only one graduate each. Five institutions produced 100 graduates or more: Teachers College of Columbia University, New York University, the University of Southern California, Pennsylvania State University, and Indiana University. Together, these five institutions produced over one-third of the total number of graduates for the two years.

The rankings shown in Table 9 were based on the total for the two years. Had these rankings been made on each academic year included in the study

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[1] Detailed documentation for numbers used in Figures III and IV is included in the Appendix.

The numbers for 1957 and 1958 in Figures III and IV included graduates from Yale University and the University of Delaware, both of which were still granting doctorates in education even though they were no longer admitting new students into their programs. Also included in these numbers were graduates from American University, the University of Kansas City, the State University of South Dakota, and Boston College, all of which began granting doctorates in education after 1955-56, the year used for identifying the institutions which comprised the so-called total group.

Bryn Mawr College was likewise included in Figures III and IV but was not considered a part of the total group because no record of Bryn Mawr's program was included in source materials used to identify the institutions to be studied.

No other tables in this study were based on the numbers used for the years 1956 through 1958 in Figures III and IV; nevertheless, these totals were considered the most accurate available because of the inclusion of graduates from the additional institutions mentioned in this footnote.

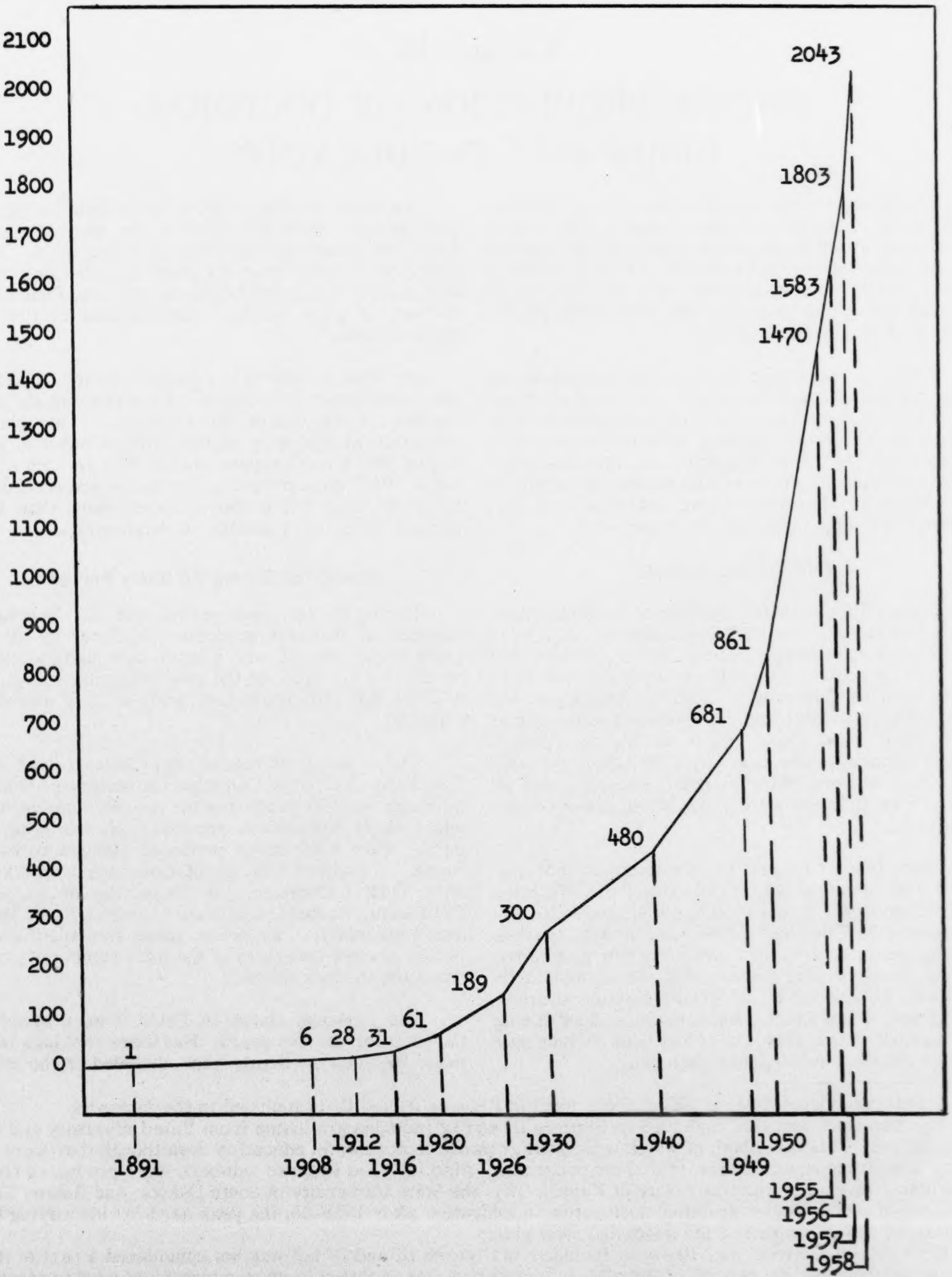

FIGURE III.--INCREASE IN NUMBER OF DOCTORAL DEGREES IN EDUCATION, 1891-1958

Source:
See Appendix, page 85.

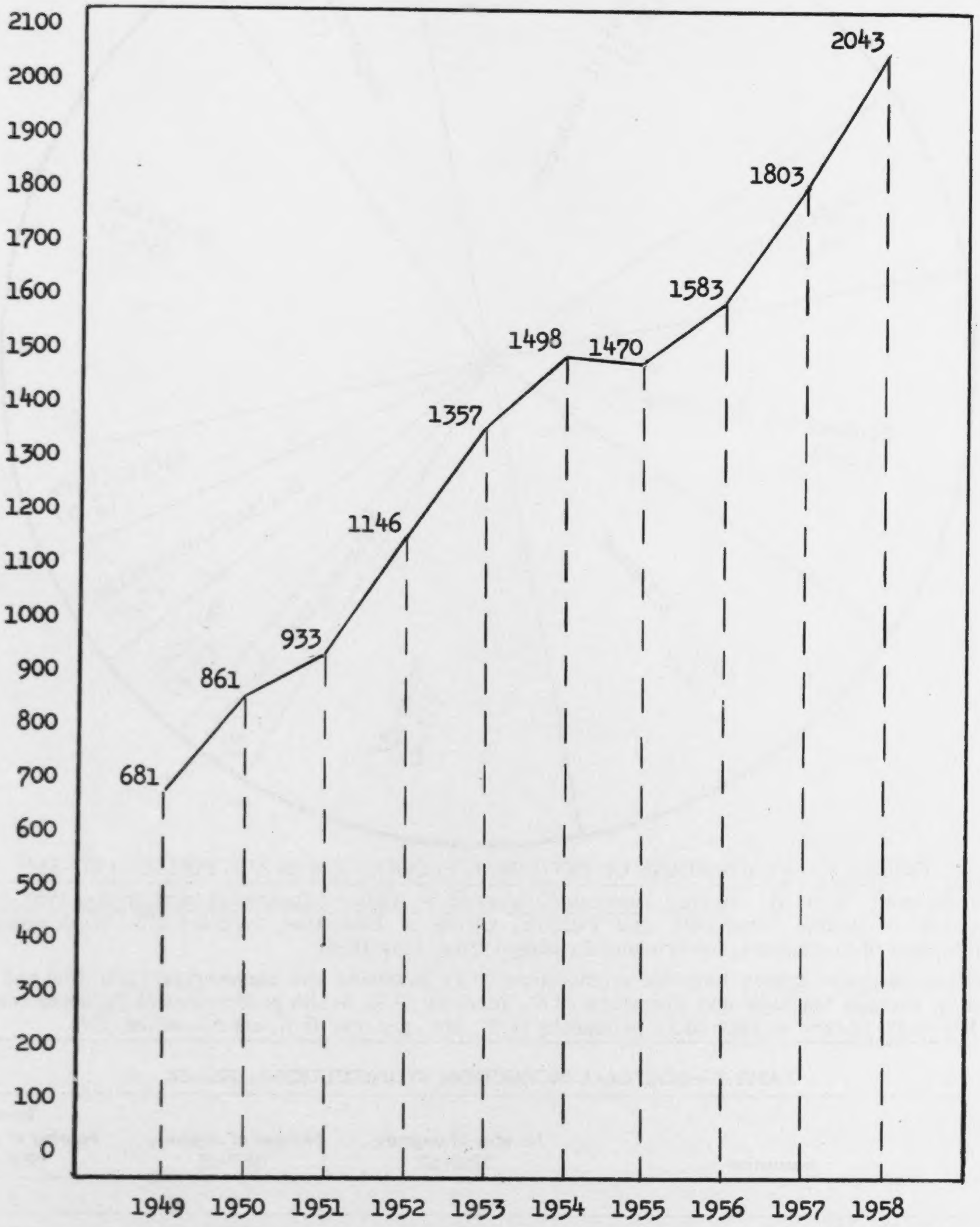

FIGURE IV.--INCREASE IN NUMBER OF DOCTORAL DEGREES IN EDUCATION, 1949-58

Source:
See Appendix, page 85.

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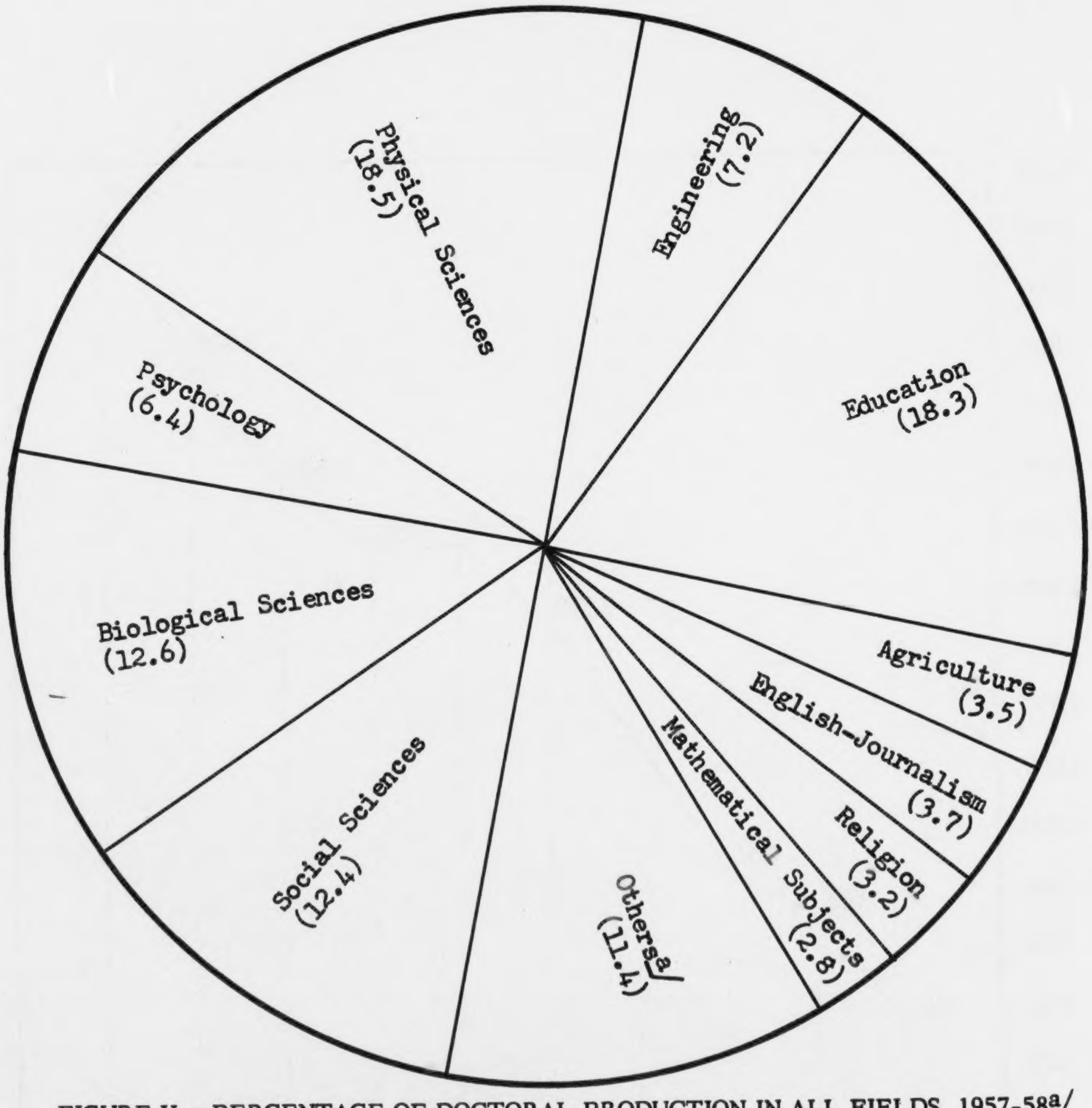


FIGURE V.--PERCENTAGE OF DOCTORAL PRODUCTION IN ALL FIELDS, 1957-58[a]

Source: Gertler, Diane B. Earned Degrees Conferred by Higher Educational Institutions, 1957-58, U. S. Department of Health, Education, and Welfare, Office of Education, Circular 570. Washington, D.C.: Superintendent of Documents, Government Printing Office, May 1959.

[a] The category Others includes architecture (0.1), business and commercial (1.2), fine and applied arts (2.5), foreign language and literature (2.6), forestry (0.3), health professions (1.7), home economics (0.3), law (0.4), library science (0.2), philosophy (1.2), art--general (0.3), not classified (0.6).

TABLE 9.--DOCTORAL PRODUCTION BY INSTITUTIONS, 1956-58

Rank	Institution	Number of degrees, 1956-57	Number of degrees, 1957-58	Total Number of degrees, 1956-58
1	2	3	4	5
1	Teachers College, Columbia University.	259	277	536
2	New York University	165	139	304
3	University of Southern California[a].	38	67	105
4	Pennsylvania State University.	46	56	102
5	Indiana University	35	65	100
6	Stanford University.	30	64	94

TABLE 9.--DOCTORAL PRODUCTION BY INSTITUTIONS, 1956-58 (Continued)

Rank	Institution	Number of degrees, 1956-57	Number of degrees, 1957-58	Total Number of degrees, 1956-58
1	2	3	4	5
7	Ohio State University	29	62	91
8	George Peabody College for Teachers	35	43	78
9	University of Michigan	45	32	77
10	Harvard University	33	43	76
11	Wayne State University	43	28	71
12	University of Pittsburgh	30	37	67
13.5	Michigan State University	26	39	65
13.5	University of Illinois[a]	33	32	65
15.5	Boston University	28	34	62
15.5	University of Minnesota	29	33	62
17.5	Colorado State College	23	32	55
17.5	University of California at Berkeley	23	32	55
19	Syracuse University	30	22	52
20.5	University of Texas	26	23	49
20.5	State University of Iowa[a]	17	32	49
22	University of Nebraska	27	21	48
23	Oregon State College	25	21	46
24	University of California at Los Angeles	27	18	45
25.5	University of Missouri	22	22	44
25.5	University of Oklahoma	22	22	44
27	University of Wisconsin	20	22	42
28	University of Chicago	19	22	41
29	University of Denver	27	12	39
30.5	University of Colorado[a]	18	20	38
30.5	Northwestern University	14	24	38
32.5	University of Connecticut	11	22	33
32.5	Cornell University	13	20	33
34	Temple University	10	22	32
35	Saint Louis University	24	6	30
36	University of Oregon	11	18	29
37	University of Kansas	16	12	28
38	Fordham University	9	17	26
40	University of Houston	14	10	24
40	University of Maryland	6	18	24
40	University of Tennessee	11	13	24
42	Catholic University of America	14	9	23
43	University of Pennsylvania	11	11	22
45	Oklahoma State University	11	10	21
45	University of Buffalo	15	6	21
45	Rutgers University	15	6	21
47.5	University of Florida	10	10	20
47.5	Florida State University	6	14	20
50.5	University of Washington[a] [b]	9	9	18
50.5	Loyola University of Chicago	12	6	18
50.5	Yeshiva University	8	10	18
50.5	University of North Carolina	7	11	18
53	University of Wyoming	9	8	17
54	University of Arkansas[a]	7	9	16
55	Auburn University	11	4	15
56.5	Western Reserve University	6	8	14
56.5	University of Virginia	6	8	14
59	Washington State University	7	6	13
59	University of Utah	6	7	13
59	Texas Technological College	10	3	13
61	Louisiana State University	7	5	12
62	University of Mississippi	3	8	11

TABLE 9.--DOCTORAL PRODUCTION BY INSTITUTIONS, 1956-58 (Continued)

Rank	Institution	Number of degrees, 1956-57	Number of degrees, 1957-58	Total Number of degrees, 1956-58
1	2	3	4	5
64	University of North Dakota	6	4	10
64	Purdue University	0	10	10
64	George Washington University	4	6	10
66.5	University of Alabama	2	7	9
66.5	North Texas State College	6	3	9
68.5	Iowa State University	2	6	8
68.5	Washington University (St. Louis)	5	3	8
71	Duke University	2	5	7
71	Texas Woman's University[a]	2	5	7
71	University of Georgia	4	3	7
74	Arizona State University	4	2	6
74	University of Kentucky	3	3	6
74	Johns Hopkins University[a]	3	3	6
77	Bradley University	4	1	5
77	University of Cincinnati	2	3	5
77	University of Tulsa	4	1	5
79.5	Baylor University	3	1	4
79.5	Claremont Graduate School	2	2	4
82.5	College of the Pacific	1	2	3
82.5	Utah State University	2	1	3
82.5	University of South Carolina	2	1	3
82.5	Dropsie College[a,b]	3	0	3
85	West Virginia University	0	2	2
89	University of Arizona	1	0	1
89	Radcliffe College	0	1	1
89	Montana State College	0	1	1
89	Montana State University	0	1	1
89	St. John's University (Brooklyn)	0	1	1
89	North Carolina College at Durham	1	0	1
89	University of Notre Dame[a]	0	1	1
	Total	1,627	1,801	3,428
	Median	10	10	21
	Q	9	9	20
	Q_1	6	4	7
	Q_3	24	22	46

Sources:

[a] Institutions that were nonparticipants in the study. Data for these institutions (and Boston University which returned part of the questionnaire) were obtained from the following sources:

1956-57. Gertler, Diane B., and Keith, Virginia W. Earned Degrees Conferred by Higher Educational Institutions, 1956-57. U.S. Department of Health, Education, and Welfare, Office of Education, Circular No. 527. Washington, D.C.: Superintendent of Documents, Government Printing Office, 1958.

1957-58. Gertler, Diane B. Earned Degrees Conferred by Higher Educational Institutions, 1957-58. U.S. Department of Health, Education, and Welfare, Office of Education, Circular No. 570. Washington, D.C.: Superintendent of Documents, Government Printing Office, 1959.

[b] Differs in two cases from the list included in the graduate phase of this study developed at the University of Illinois. The list in Table 9 includes the University of Washington, which was not involved in the graduate phase, and Dropsie College in place of Springfield College. Dropsie was not identified as a doctoral degree granting institution from the published sources used for comprising the original list (1955-56). Springfield was dropped from the institutional phase of the study after it was discovered that this institution granted only the D.P.E., a doctorate in physical education. This study was delimited to the Ed.D. and Ph.D. degrees in education.

Note: The discrepancies between the above table and Table 2, Volume I, can be accounted for by the differences reported in the original data. Questionnaires covering each of the two phases of the study were sent on different dates directly to institutions conferring doctoral degrees in education. The two tables indicate that sometimes data provided by an institution for each of the phases were not always in agreement.

period, considerable fluctuation would have been noticed on the part of many of the universities. Several universities produced decidedly more graduates in 1956-57 than in 1957-58, or vice versa. Many factors led to these differences within universities, among which were status of major professors and other personnel changes, curriculum ramifications, and financial matters--along with, no doubt, a notable amount of chance. Despite these changes from year to year, the rankings in Table 9 probably reflect the relative level of each institution's capacity and willingness to produce doctoral graduates in education during the latter part of this decade.

TABLE 10.--DOCTORAL PRODUCTION IN TOTAL GROUP BY TYPE OF INSTITUTION

Year	Private institutions		Public institutions		Total
	Number	Percent	Number	Percent	
1	2	3	4	5	6
1956-57	861	52.9%	766	47.1%	1,627
1957-58	926	51.4	875	48.6	1,801
Total.....	1,787	52.1%	1,641	47.9%	3,428

Production by Type of Institution

The 35 private institutions which comprised 38 percent of the total group, as shown in Table 10, produced 52.1 percent of the graduates during the two-year study period. This percentage was heavily weighted by the inclusion of graduates from New York University and Teachers College of Columbia University, both of which produced extremely large graduating classes. However, six of the ten top-producing institutions were private universities.

The 57 public institutions, which comprised 62 percent of the total group, produced 47.9 percent of the doctoral graduates in education during the two-year period.

Regional Production

As shown in Table 11, the highest producing region in the United States consisted of the Middle Atlantic states, where 36.1 percent of the graduates received their degrees. Again, this percentage was considerably influenced by the large production at New York University and Teachers College of Columbia University.

The East South Central states (Alabama, Tennessee, Mississippi, and Kentucky) comprised the region in which the lowest percentage (4.2) of graduates received their degrees.

Analysis of the data in Table 11 was made to determine the extent of relationship between the percentages of graduates by regions and the total population within each region. It was assumed that there was meaning to the relationship between these two factors; consequently, regions were labeled *overproducers* or *underproducers* on the basis of *comparability* of the two percentages. There would seem to be some validity in such an assumption. Along this line of reasoning, the Middle Atlantic region, with 19.8 percent of the nation's population, was an overproducer, having graduated 36.1 percent of the doctoral students during the two-year study period. The Mountain and Pacific regions were likewise overproducers, since they produced higher percentages of graduates than they contained in population. The New England region came very close to falling in the overproduction category, with

TABLE 11.--REGIONAL DOCTORAL PRODUCTION, 1956-58

Regions	Number of graduates, 1956-58	Percent of total graduates	Percent of total U.S. population, 1958
1	2	3	4
New England	172	5.0%	5.7%
Middle Atlantic	1,238	36.1	19.8
South Atlantic	155	4.5	14.5
East North Central...	643	18.8	20.4
East South Central...	143	4.2	6.8
West North Central ..	287	8.4	8.8
West South Central ..	204	5.9	9.5
Mountain.........	174	5.1	3.8
Pacific	412	12.0	10.7
Total........	3,428	100.0%	100.0%
East of the Mississippi River (53 institutions)	2,363	68.9%[a]	68.9%[a]
West of the Mississippi River (39 institutions)	1,065	31.1%[a]	31.1%[a]
All institutions (92) ..	3,428	100.0%	100.0%

Source:

Column 4. U.S. Department of Commerce, Bureau of Census. *Current Population Reports; Population Estimates*. Series P-25, No. 189. Washington, D.C.: Superintendent of Documents, Government Printing Office, 1958. p. 2.

[a] A rather incredible coincidence!

a difference of only 0.7 percent in favor of the total population. The West North Central region also was within a fraction of being an overproducer.

Conversely, the South Atlantic, East South Central, East North Central, and West South Central regions were underproducers, with the South Atlantic being the greatest underproducer with only 4.5 percent of the graduates. This latter region included the District of Columbia, Maryland, Virginia, West Virginia, North Carolina, South Carolina, Georgia, and Florida--states which together accounted for 14.5 percent of the nation's population.

Regional differences, however, made such a labeling procedure hazardous. Employment positions available, extent of wealth, geographic considerations, amount of urbanization, and number of degree-granting institutions present were but a few of the factors that influenced the level of regional production. A study of the graduates' location following receipt of their degrees, in conjunction with an establishment of regional needs, would have shed further light on this analysis to help determine regional potential. In addition, such a study would have revealed the amount of insularity and inbreeding in some regions, as opposed to the extent of cultural cross-fertilization and academic mobility among others.

If it were assumed that all regions were comparable in point of relative need for doctoral graduates in education, along with equal capabilities to meet these needs, conclusions would have been definitely defensible in regard to the desirability for greater numbers of locally produced doctorates in some of the regions. Professional education with its local orientation, particularly in its so-called practitioner aspects, would have strengthened such a conclusion. At the same time, such an assumption might have led to the conclusion that at least the Middle Atlantic region was beyond the legitimate or desirable level of inbreeding, despite the need for a significant percentage of locally produced doctorates in the field. Without ample data, however, such conclusions were not feasible. Nevertheless, the implications for further study were inherent in the analysis, and the hypothesis could be strengthened by existing data.

Strangely enough, the relationship between the percentages of doctoral graduates produced east and west of the Mississippi River were identical to the percentages of total population. East of the Mississippi, 68.9 percent of the population were located and in this same area 68.9 percent of the doctoral degrees were granted. The same relationship naturally prevailed west of the Mississippi.

State Production

The map in Figure VI shows the state-by-state relationship between production and number of institutions. From this national overview, further amplification of the regional picture was attained. Although the East South Central region produced the lowest percentage of graduates, one state in this region (Tennessee) produced over 100 graduates from only two institutions. Almost the same number of graduates were produced from six institutions in the State of Texas.

As shown in Figure VI, doctoral graduates in education were entirely ''imports in Idaho, Nevada, New Mexico, South Dakota, Rhode Island, Vermont, New Hampshire, and Maine. This was not technically true of Delaware because the University of Delaware, which no longer intended to offer the doctorate in education, was, nevertheless, still granting degrees at the time of the study.

As indicated in the projection analysis in Chapter VII, several of the nonproducing states were planning to add programs.

THE PARTICIPATING GROUP

Published sources were used to furnish gross figures for nonrespondents. These sources, however, did not show production according to degree types--Ed.D. or Ph.D.--or by areas of concentration or ''majors''; therefore, analyses pertaining to these factors were restricted to the institutions that furnished this information.

Production by Degrees Granted

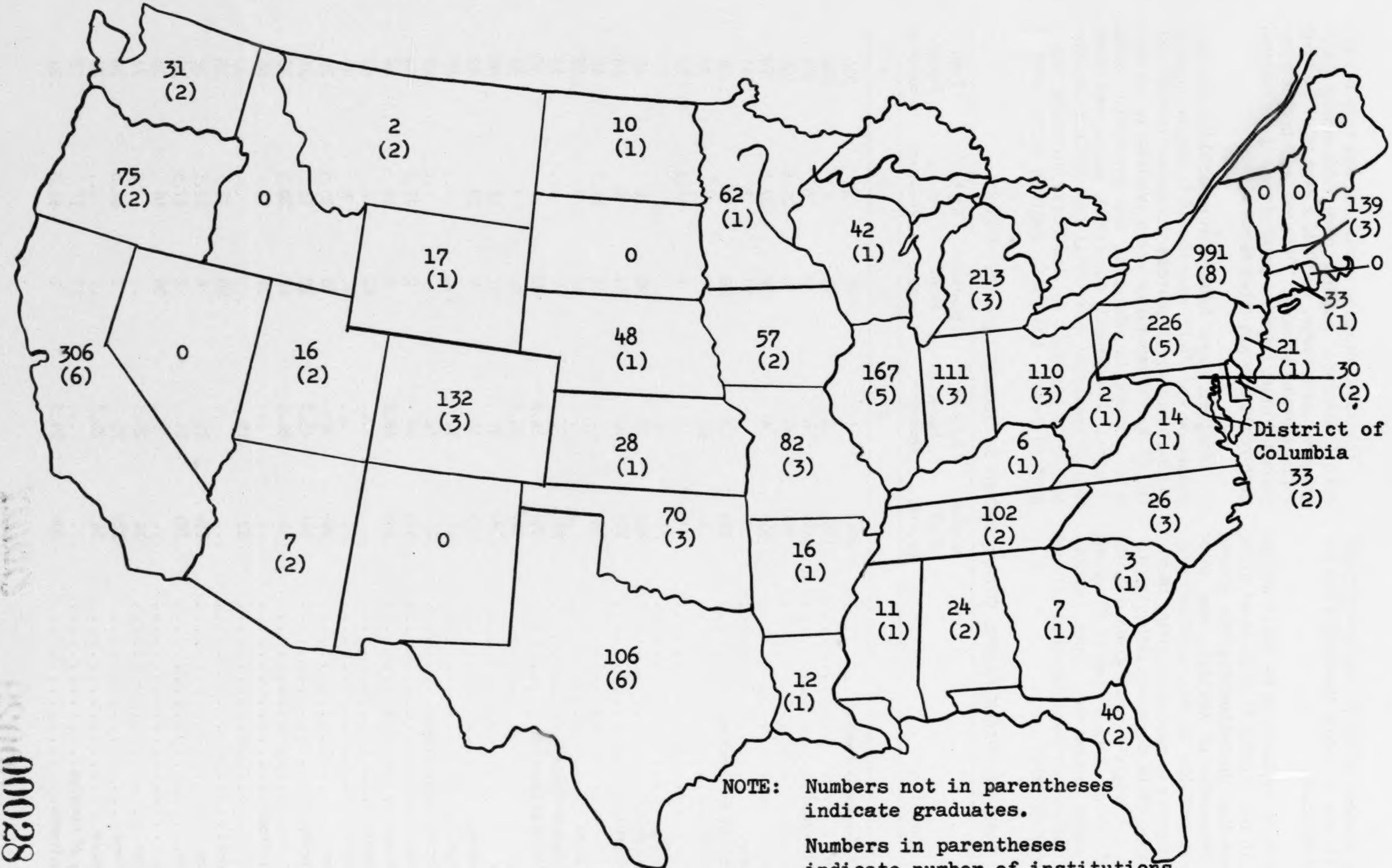
According to Table 12, of the 3116 graduates from 81 participating institutions, 1978, or 63.5 percent, received the Ed.D. degree. The other 1138, or 36.5 percent, were granted the Ph.D. degree in education.

TABLE 12.--DOCTORAL PRODUCTION BY TYPE OF INSTITUTION IN PARTICIPATING GROUP, AND DEGREES GRANTED, 1956-58

Type of institution	Ed.D. degrees	Percent	Ph.D. degrees	Percent	Both degrees	Percent
1	2	3	4	5	6	7
Private	1,056	53.4%	612	53.8%	1,668	53.5%
Public.	922	46.6	526	46.2	1,448	46.5
Total	1,978[a]	100.0%	1,138[b]	100.0%	3,116	100.0%

[a] Constitutes 63.5 percent of the total number of doctoral degrees in education in these 81 institutions.

[b] Constitutes 36.5 percent of the total number of doctoral degrees in education in these 81 institutions.


31 (2)
75 (2)
306 (6)
0
0
2 (2)
17 (1)
16 (2)
132 (3)
7 (2)
0
10 (1)
0
48 (1)
28 (1)
70 (3)
106 (6)
62 (1)
57 (2)
82 (3)
16 (1)
12 (1)
42 (1)
213 (3)
167 (5)
111 (3)
110 (3)
6 (1)
102 (2)
11 (1)
24 (2)
7 (1)
3 (1)
40 (2)
2 (1)
14 (1)
26 (3)
226 (5)
991 (8)
21 (1)
0
30 (2)
District of Columbia 33 (2)
0
0
0
139 (3)
0
33 (1)

NOTE: Numbers not in parentheses indicate graduates.

Numbers in parentheses indicate number of institutions granting doctoral degrees in education.

FIGURE VI.--LOCATION OF 3,428 DOCTORAL GRADUATES BY STATES

00028

The median number of Ed.D. degrees granted, shown in Table 13, was 17, while the median number of Ph.D. degrees was nine.

The predominant emphasis on the Ed.D. degree was apparent in all but 10 of the 41 institutions in the participating group that offered both degrees. Among these ten, the University of Michigan was most notable. As shown in Table 13, this university produced 71 Ph.D. degrees in education, giving them a rank of fourth among Ph.D. degree-granting institutions; only six Ed.D. degrees were granted during the same period, giving them a rank of 51 among Ed.D. degree-granting institutions. Such a difference seemed to indicate an institutional preference for one degree over the other.

The same situation in reverse was true at Harvard University, which ranked fifth among Ed.D. granting institutions, but held a rank of 41.5 among Ph.D. granting schools. This, too, was probably explainable more from the point of view of institutional preference than any other factor.

Another major factor that entered into the emphasis on the Ph.D. over the Ed.D. degree in some institutions was that of areas of concentration offered. Of all the various major areas available to the doctoral student in education, the psychology fields (clinical, educational, vocational, social, and counseling) contained more Ph.D. than Ed.D. graduates. In institutions such as New York University, which granted nearly 100 Ph.D. degrees in the area of

TABLE 13.--PARTICIPATING GROUP, SHOWN BY DEGREES GRANTED, 1956-58

Institution 1	Number Ed.D. degrees 2	Rank of Ed.D. producers 3	Number Ph.D. degrees 4	Rank of Ph.D. producers 5	Total 2-year production 6
Teachers College, Columbia University	431+	1	105	2	536
New York University	114-	2	190	1	304
Pennsylvania State University	60+	8	42	6	102
Indiana University	90+	3	10	25.5	100
Stanford University	82+	4	12	22.5	94
Ohio State University	...	...	91	3	91
George Peabody College for Teachers	45+	12	33	11	78
University of Michigan	6-	51	71	4	77
Harvard University	74+	5	2	41.5	76
Wayne State University	71	6	...	...	71
University of Pittsburgh	45+	12	22	18	67
Michigan State University	31-	19	34	10	65
Boston University	62+	7	0	54.5	62
University of Minnesota	...	...	62	5	62
Colorado State College of Education	55	9	...	...	55
University of California at Berkeley	35+	16.5	20	19	55
Syracuse University	17-	32.5	35	9	52
University of Texas	18-	31	31	13	49
University of Nebraska	39+	15	9	29	48
Oregon State College	46	10	...	...	46
University of California at Los Angeles	45	12	...	...	45
University of Missouri	42+	14	2	41.5	44
University of Oklahoma	35+	16.5	9	29	44
University of Wisconsin	...	...	42	7	42
University of Chicago	...	...	41	8	41
University of Denver	29+	20	10	25.5	39
Northwestern University	10+	42.5	28	15	38
Cornell University	15	36.5	18	20.5	33
University of Connecticut	...	...	33	12	33
Temple University	32	18	...	...	32
Saint Louis University	...	...	30	14	30
University of Oregon	25+	22	4	32.5	29
University of Kansas	26+	21	2	41.5	28
Fordham University	...	...	26	16	26
University of Houston	24	23.5	...	...	24
University of Maryland	22+	25	2	41.5	24
University of Tennessee	24	23.5	...	...	24
Catholic University of America	...	...	23	17	23
University of Pennsylvania	20+	29.5	2	41.5	22

TABLE 13.--PARTICIPATING GROUP, SHOWN BY DEGREES GRANTED, 1956-58 (Continued)

Institution	Number Ed.D. degrees	Rank of Ed.D. producers	Number Ph.D. degrees	Rank of Ph.D. producers	Total 2-year production
1	2	3	4	5	6
Oklahoma State University	21	27	...	...	21
University of Buffalo	21	27	...	...	21
Rutgers University	21	27	...	...	21
University of Florida	20	29.5	...	...	20
Florida State University	17+	32.5	3	35.5	20
Loyola University of Chicago	16+	34.5	2	41.5	18
Yeshiva University	0–	66	18	20.5	18
University of North Carolina	8–	46.5	10	25.5	18
University of Wyoming	16+	34.5	1	49.5	17
Auburn University	15	36.5	...	...	15
Western Reserve University	5–	55	9	29	14
University of Virginia	13+	38.5	1	49.5	14
Washington State University	11+	40.5	2	41.5	13
University of Utah	9+	44.5	4	32.5	13
Texas Technological College	13	38.5	...	...	13
Louisiana State University	...	...	12	22.5	12
University of Mississippi	11+	40.5	0	54.5	11
University of North Dakota	8+	46.5	2	41.5	10
Purdue University	...	...	10	25.5	10
George Washington University	10	42.5	...	...	10
University of Alabama	6+	51	3	35.5	9
North Texas State College	9	44.5	...	...	9
Iowa State University	...	...	8	31	8
Washington University (St. Louis)	5+	55	3	35.5	8
Duke University	7	48.5	...	...	7
University of Georgia	7	48.5	...	...	7
Arizona State University	6	51	...	...	6
University of Kentucky	5+	55	1	49.5	6
Bradley University	4+	58.5	1	49.5	5
University of Cincinnati	5	55	...	...	5
University of Tulsa	5	55	...	...	5
Baylor University	4	58.5	...	...	4
College of the Pacific	3	60.5	...	...	3
Utah State University	3	60.5	...	...	3
University of South Carolina	...	...	3	35.5	3
West Virginia University	2	62	...	...	2
University of Arizona	0–	66	1	49.5	1
Radcliffe College	...		1	49.5	1
Montana State University	1	63.5	...	...	1
Montana State College	1	63.5	...	...	1
St. John's University (Brooklyn)	0	66	1	49.5	1
North Carolina College at Durham	...	...	1	49.5	1
Total	1,978		1,138		3,116[a]
Median	17		9		21
Q_1	7		2		9
Q_3	35		30		45
Q	14		14		18

... Indicates that degree was not offered.

0 Indicates that degree was offered but none were granted during study period.

+ Indicates that institution granted more Ed.D. degrees than Ph.D. degrees.

– Indicates that institution granted less Ed.D. degrees than Ph.D. degrees.

[a] Total does not coincide exactly with Tables 14 and 15, because Boston University, included in the above table, did not provide analyses of production by areas of concentration.

educational psychology and child development, the influence of the areas of concentration offered on the degrees granted was obvious. Even though this factor was influential in the granting of more Ph.D. than Ed.D. degrees at New York University, the difference was not great enough to change appreciably the degree rankings. New York University ranked first in Ph.D. degree production and second in Ed.D. degree production.

Another factor that produced a high ranking in one degree and a low ranking in the other in at least one university was the relative age of the two programs. At Boston University all degrees during the study period were Ed.D. degrees, because the Ph.D. program had only recently been offered and had not yet produced any graduates.

Production by Areas of Concentration

All but 13.5 percent of the graduates during the study period were categorized in the questionnaires into 21 different areas of concentration. The additional 13.5 percent of the graduates were listed in 38 other areas of concentration. Altogether, therefore, there were as many as 59 different areas of concentration, or major fields, within professional education from which the doctoral graduates had chosen their specialization.

Among the 21 most frequently reported areas of concentration, school administration, as shown in Table 14, ranked first; this area alone was responsible for 673 (22 percent) of the graduates. Guidance and counseling ranked second, constituting 10.1 percent of the total, while educational psychology and child development ranked third with 9.3 percent of the graduates. Elementary and secondary education were fourth and fifth respectively.

Of all 59 areas of concentration in which graduates were listed, more Ph.D. than Ed.D. degrees were granted in 23 fields. These were:

Educational psychology and child development
History and philosophy of education
Psychology
English education
Mathematics education
Agricultural education
Clinical psychology
Adult education
Social science education
Human relations
Counseling psychology
Elementary reading
Extension education
Foreign language education
Communications
Social psychology
Dramatic arts
Safety education
Educational psychology and measurement
Vocational counseling
Comparative and international education
Hebrew culture
Radio and television education.

The difference, however, between the number of Ph.D. and Ed.D. degrees granted was greater than 10 in only six of the above areas; namely, educational psychology and child development, psychology, english education, mathematics education, clinical psychology, and adult education.

TABLE 14.--AREAS OF CONCENTRATION IN WHICH 3,054 DEGREES WERE GRANTED

Rank	Area of concentration	Number	Percent
1	2	3	4
1	School administration	673	22.0%
2	Guidance and counseling. . .	309	10.1
3	Educational psychology and child development	285	9.3
4	Elementary education	196	6.4
5	Secondary education	164	5.4
6	General curriculum	107	3.5
7	Physical education.	101	3.3
8	Higher education.	99	3.2
9	History and philosophy of education	87	2.8
10	Music education	78	2.6
11	Teacher education	72	2.4
12	Science education	66	2.2
13	Business education	62	2.0
14	Psychology.	58	1.9
15	Special education	52	1.7
16	English education	48	1.6
17	Educational measurements and statistics	45	1.5
18	Foundations of education. . .	43	1.4
19.5	Mathematics education	33	1.1
19.5	Vocational education	33	1.1
21	Agricultural education	31	1.0
22-56	All others[a]	412	13.5
	Total.	3,054	100.0%

[a] Includes 38 areas of concentration, each of which contributed less than 1 percent of the total production for the two-year period.

Many of the universities that offered both degrees seemed to perceive the related fields of psychology as lending themselves more to the Ph.D. than the Ed.D. degree. This same perception operated in regard to a few subject-matter specialities, more particularly English and mathematics education. Only one practitioner, or professionally oriented, area (adult education) accounted for more Ph.D. than Ed.D. degrees.

In 34 areas of concentration, the Ed.D. was awarded more frequently than the Ph.D. degree. The differences here were not extreme in all cases, however. The areas in which the number of Ed.D. degrees was greater by 10 or more were as follows:

- School administration
- Guidance and counseling
- Elementary education
- Secondary education
- General curriculum
- Physical education
- Higher education
- Music education
- Teacher education
- Science education
- Business education
- Foundations of education
- Audio-visual education
- Industrial arts, trades, and industries
- Art education
- Nursing education
- Marriage and family life.

The above list includes those areas noticeably oriented toward the practitioner aspects of professional education.

While some institutions made efforts to reserve certain areas for one degree or the other, others were not necessarily in agreement with such a practice and evidently perceived the purposes and functions of the two degrees as more similar in nature. Statements to this effect were voluntarily included on some questionnaire returns and are quoted in later chapters.

From the latter observation, it is possible to hazard a supposition that the Ed.D. degree is becoming a generic expression to cover the entire field of education and its many related areas, just as the Ph.D. degree has classically been an all-encompassing term. The Ed.D. degree recently has been granted in areas not even loosely described as practitioner related. The practitioner orientation was, of course, fundamental among the reasons for the creation of the degree.

As shown in Table 15, school administration was not only the area in which the highest number of degrees was granted; quite naturally from this fact, it was also the most prevalently offered--67 institutions among the participants included this area of concentration. There were only eight areas in which more than 20 institutions contributed graduates: school administration, guidance and counseling, educational psychology and child development, elementary education, secondary education, general curriculum, higher education, and history and philosophy of education. At the other end of the continuum, 21 areas were peculiar to only one institution each. The latter phenomenon resulted, in all probability, from the practice in a few institutions of designating the major areas with highly specific titles.

TABLE 15.--AREAS OF CONCENTRATION BY DEGREE GRANTED AND NUMBER OF INSTITUTIONS[a]

Rank	Area of concentration	Total Ed.D. degrees	Number of institutions granting Ed.D. in area	Total Ph.D. degrees	Number of institutions granting Ph.D. in area	Total number of graduates, both degrees	Total number of different institutions granting either or both degrees in area[b]
1	2	3	4	5	6	7	8
1	School administration	573	56	100	29	673	67
2	Guidance and counseling.	190	36	119	25	309	51
3	Educational psychology and child development.	69	20	216	29	285	37
4	Elementary education	153	34	43	18	196	44
5	Secondary education.	124	31	40	18	164	41
6	General curriculum	78	20	29	12	107	26
7	Physical education.	78	14	23	7	101	16
8	Higher education.	58	17	41	12	99	24
9	History and philosophy of education.	39	15	48	16	87	26
10	Music education	55	7	23	9	78	12
11	Teacher education	50	12	22	7	72	17
12	Science education	42	9	24	6	66	13
13	Business education	37	12	25	7	62	16
14	Psychology.	7	1	51	2	58	3[c]
15	Special education	29	10	23	8	52	15
16	English education.	14	6	34	10	48	14
17	Educational measurements and statistics	24	11	21	9	45	17
18	Foundations of education.	29	7	14	5	43	9
19.5	Mathematics education	11	3	22	7	33	8
19.5	Vocational education	18	7	15	4	33	11

TABLE 15.--AREAS OF CONCENTRATION BY DEGREE GRANTED AND NUMBER OF INSTITUTIONS[a] (Continued)

Rank	Area of concentration	Total Ed.D. degrees	Number of institutions granting Ed.D. in area	Total Ph.D. degrees	Number of institutions granting Ph.D. in area	Total number of graduates, both degrees	Total number of different institutions granting either or both degrees in area[b]
1	2	3	4	5	6	7	8
21	Agricultural education	12	6	19	6	31	10
22.5	Audio-visual education.......	23	9	6	5	29	12
22.5	Home economics	19	6	10	5	29	9
24	Clinical psychology	1	1	27	1	28	1[c]
25	Industrial arts, trades, and industries..............	21	5	7	2	28	7
26	Religious education	14	2	13	3	27	3
27	Art education	24	5	2	2	26	6
28	Adult education............	5	4	20	7	25	10
29	Social science education......	10	4	11	4	21	6
30	Human relations............	6	1	14	2	20	2
31	Counseling psychology	6	1	14	1	20	1[c]
32	Speech education...........	11	3	8	2	19	3
33	Nursing education	15	3	3	3	18	5
34	Educational sociology........	11	3	6	1	17	3
35	Marriage and family life	14	1	2	1	16	1
36	Elementary reading..........	6	3	8	3	14	5
37.5	Extension education	3	2	6	2	9	2
37.5	Health education...........	8	3	1	1	9	3
39	Education--general	7	2	1	1	8	3
40	Foreign-language education	2	2	4	4	6	5
42	Recreation	4	1	1	1	5	2
42	Communications............	2	1	3	1	5	1
42	Social psychology	1	1	4	1	5	1[c]
45	School psychology	2	1	1	1	3	1[c]
45	Dramatic arts	...	...	3	1	3	1
45	Safety..................	1	1	2	1	3	1
49.5	Education, psychology and measurements	...	...	2	1	2	1
49.5	General planning...........	2	1	...	...	2	1
49.5	Co-curricular education	2	1	...	...	2	1
49.5	Vocational counseling........	...	...	2	1	2	1
49.5	Comparative and international education..............	...	...	2	1	2	1
49.5	Personal psychology	1	1	1	1	2	1[c]
56	Elementary music supervision ...	1	1	...	...	1	1
56	Hebrew culture	...	...	1	1	1	1
56	Radio and television education ..	...	...	1	1	1	1
56	Nutrition................	1	1	...	...	1	1
56	Community college education...	1	1	...	...	1	1
56	Group process and development. .	1	1	...	...	1	1
56	English as a second language ...	1	1	...	...	1	1
	Total	1,916		1,138		3,054	

[a] Based on data obtained directly from questionnaires returned by 80 institutions in this study. These 3,054 graduates constituted 89 percent of the total number of graduates from the 92 institutions granting degrees during the two-year period.

[b] Entries in columns 4 and 6 seldom add up to equal entries in column number 8, since in almost every instance each field of concentration was offered by several institutions that grant both Ed.D. and Ph.D. degrees in the field. Column 8 includes only the number of different institutions in which the field was offered for an Ed.D. or a Ph.D. degree, or both.

[c] Should not be construed to be inclusive of all doctoral graduates in the field of psychology, includes only those Ed.D. or Ph.D. degrees in psychology granted by institutions including psychology among their offerings in the division of education or by institutions that combined the field of psychology and education in one division.

High and Low Producers

In the participating group the 18 high Ph.D. degree-producing institutions graduated 926, or 81.4 percent, of the candidates for the Ph.D. degree, while the 18 low Ph.D. producers graduated 59, or 5.2 percent, of the candidates.

The 18 high Ed.D. producing institutions graduated 1395, or 70.5 percent, of the Ed.D. candidates; the 18 low Ed.D. producers graduated 145, or 7.3 percent, during the two-year period.

The foregoing data indicated a need for determining what possible relationships there were between a high or low level of production and the various conditions and requirements that pertained to the pursuit of doctoral degrees in education. Consequently, many of the analyses in the following three Chapters include comparisons between high and low producers for each degree.

Chapter IV

ADMISSIONS REQUIREMENTS

This Chapter deals with a group of requirements that characterize doctoral admissions policies and procedures. In this Chapter, the term admissions is not used to refer to the establishment of candidacy; it is applied only to entrance into the program or admission to study.

Only 80 of the responding institutions were used in these analyses; one university did not complete the part of the questionnaire that dealt with admissions requirements.

Data relative to credit hours are reported in this Chapter and throughout the study in terms of semester hours, since nearly three-fourths of the participating institutions were on the semester rather than the quarter system.

PREVIOUS DEGREES

The Bachelor's Degree

One of the first prerequisites for applicants for doctoral study in education in many of the 80 institutions was both a baccalaureate and a master's degree from regionally accredited institutions. As shown in Table 16, 72 institutions, or 90 percent, required the applicant to possess a baccalaureate degree from an accredited institution. The other eight institutions responded that, though a baccalaureate degree was required, it need not have been earned at a regionally accredited institution.

TABLE 16.--PREVIOUS DEGREES REQUIRED FOR ADMISSION

Degree required	Yes	Percent	No	Percent
1	2	3	4	5
Bachelor's degree from a regionally accredited institution . . .	72	90.0%	8	10.0%
Master's degree from a regionally accredited institution . . .	51	63.8	29	36.2

The University of Buffalo reported that even though the baccalaureate degree from a regionally accredited institution was required, a doctoral student could be admitted without satisfying this requirement after approval from the New York State Department of Education--a provision usually made in cases relating to foreign students.

The Master's Degree

Requirements were somewhat less stringent regarding the master's degree. A total of 51 institutions, or 63.8 percent, required a master's degree from a regionally accredited institution prior to admission. Five of the other 29 institutions stipulated that the master's degree was required, but that it need not be from an accredited institution. Twenty-four institutions, or nearly one-third of the respondents, reported that applicants need not have earned a master's degree. Presumably, equivalency in terms of credit hours was all that was necessary in these institutions. Pennsylvania State University, one of the 24 institutions, reported that the only exception to this policy related to doctoral students majoring in higher education. In this field of concentration, the student was required to hold a master's degree in a subject-matter area.

Analysis revealed that requirements relative to previous degrees were no different in regard to the degrees to which the application was directed (Ed.D. or Ph.D.), the administrative unit (college of education or graduate college), or level of doctoral production (high or low 18).

Only 7 percent of the public institutions accepted applicants with baccalaureate degrees from other than regionally accredited institutions, while 14 percent of the private institutions did so. A similar difference appeared in relation to the master's degree. Of the public institutions in the study, 23 percent did not require the master's degree, as compared to 34 percent of the private institutions.

PREVIOUS GRADE-POINT AVERAGES

Undergraduate Grade Average

As indicated in Table 17, 51 institutions reported use of a recommended grade-point average based on undergraduate work as an admissions requirement. Over one-half of these schools required that the average be of "B" quality or above. Twenty institutions accepted less than this average; interestingly enough, 19 of these 20 were public institutions. Four of the 18 high Ed.D. producers and four of the 18 high Ph.D. producers were among these 20 institutions, whereas only one of the 18 low Ph.D. producers and two of the low Ed.D. producers admitted applicants with less than a "B" average.

Twenty-nine institutions, or 36.3 percent of the respondents, reported that no arbitrary grade-point average was stated in their admissions requirements. This appeared to be more peculiar to private institutions, inasmuch as 48 percent of them did not state such a requirement, as compared to 29 percent of the public institutions. Many of these institutions reported, however, that critical examination of the undergraduate record was made. One such institution reported:

> Many factors are taken into consideration in determining a "satisfactory record" including recency of enrollment; standing of the institution where the work was completed; continuous improvement in record, particularly strength in courses forming an appropriate background for the field of specialization desired on the doctoral level; and quality of work in courses forming an appropriate background for research.

TABLE 17.--UNDERGRADUATE GRADE-POINT AVERAGES REQUIRED FOR ADMISSION

Average required	Number	Percent
1	2	3
"A" in major field	1	1.2%
"B+"	1	1.2
"B+" on junior and senior courses.	1	1.2
"B"	17	21.3
"B" on junior and senior courses .	4	5.0
"B-"	3	3.8
"B-" on junior and senior courses.	1	1.2
"C+"	11	13.8
"C"	3	3.8
"C" overall; "B" in professional courses	2	2.5
5 on a 6-point scale.	1	1.2
80 on a 100-point scale	2	2.5
Unspecified[a]	4	5.0
No specific grade-point average required	29	36.3
Total	80	100.0%

[a] These institutions checked the entry regarding grade-point averages, but did not specify what average was used.

TABLE 18.--PREVIOUS GRADUATE GRADE-POINT AVERAGE REQUIRED FOR ADMISSION[a]

Average required	Number	Percent
1	2	3
"A" in 50 percent of work beyond undergraduate degree	1	1.2%
"B+"	22	27.6
"B"	23	28.9
"C+"	1	1.2
80 on a 100-point scale	1	1.2
5.5 on a 6-point scale	1	1.2
88 on a 100-point scale	1	1.2
Unspecified[b].	1	1.2
No specific grade-point average required.	29	36.3
Total	80	100.0%

[a] This does not in all cases mean the master's degree, since several institutions did not require a master's degree for admission.

[b] One institution checked the entry regarding grade-point average, but did not specify what average was used.

The University of Maryland reported that its doctoral committee was tentatively and unofficially considering whether academic requirements at the undergraduate level should not be "stiffer."

Graduate Grade-Point Average

Again, 51 institutions, as shown in Table 18, indicated use of a recommended grade-point average based on work beyond the bacalaureate degree. All but three of these schools stipulated that the grade-point average on graduate work had to be in terms of a "B" or higher. Actually, 23 institutions required a "B+" or more. This requirement was stated in 24.1 percent of the private institutions and in 29.5 percent of the public institutions. Eight of the 23 institutions that required a "B+" graduate average or higher did not state a specified undergraduate average, but apparently compensated by placing added emphasis on the graduate record.

Seven of the high Ph.D. producers required better than a "B" average in graduate study prior to matriculation, as compared to four of the low Ph.D. producers. There was no difference in this regard between the high and low Ed.D. producers.

As with the undergraduate grade-point average, 29 institutions, or 36.3 percent, reported no specific graduate average requirement. Again, this was more true of the private institutions than the public; 48 percent of the private institutions did not state a required grade-point average, while only 29 percent of the public institutions did not do so. One public institution noted the following:

> We are of the opinion that graduate grades are highly unreliable as predictors of quality of further graduate work. We, therefore, pay little attention to the grades in graduate work unless they are consistently low.

In all, 15 institutions in the study reported no specified grade-point average for either undergraduate or graduate work. Presumably, these institutions relied on a more informal gauge of previous academic success.

LETTERS OF RECOMMENDATION

According to Table 19, the median number of letters of recommendation required of applicants was three. Two institutions, however, had as few as one letter required, while another institution required as many as 13. Sixteen institutions reported no such requirement. Ohio State University, one of the 16, reported that a structured form was being devised for this purpose, however. Auburn University and Rutgers University also reported changes underway in the area of evaluating statements of previous work and professional experience and reports from acquaintances within the profession.

TABLE 19.--LETTERS OF RECOMMENDATION REQUIRED FOR ADMISSION

Letters required	Number	Percent
1	2	3
None	16	20.1%
One	2	2.5
Two	7	8.8
Three	35	43.8
Four	5	6.3
Five	6	7.5
Six	1	1.2
Seven	1	1.2
Eight	1	1.2
Nine	0	...
Ten	1	1.2
Eleven	0	...
Twelve	0	...
Thirteen	1	1.2
Unspecified number	4	5.0
Total	80	100.0%

Median. . . . . . 3 letters
Range. . . . . 0–13 letters

Analysis revealed that differences relative to letters of recommendation existed between private and public institutions. Only 14 percent of the private institutions did not require such letters, whereas 23 percent of the public institutions did not.

Ed.D. programs administered by the college of education rarely excluded this requirement; only 10 percent did so. Graduate-college administered Ed.D. programs excluded the requirement in 23 percent of the cases.

TEACHING CERTIFICATES

Over one-half of the 80 institutions did not require a teaching certificate, or its equivalent, for admission. These figures are included in Table 20.

Of the 41 institutions that did not require a teacher's certificate, an appreciable difference was noted when comparisons were made between private and public institutions. Twenty, or 39.2 percent, of the 51 public institutions in the study had no such requirement, as compared to 21, or 72.4 percent, of the 29 private institutions. Perhaps this difference was attributable to the fact that state-supported institutions perceived their role as more structurally related to the entire state system of education.

TABLE 20.--TEACHING CERTIFICATE OR EQUIVALENT REQUIRED FOR ADMISSION

Certification requirement	Number	Percent
1	2	3
Teaching certificate or equivalent required	39[a]	48.8%
Teaching certificate or equivalent not required	41	51.2
Total	80	100.0%

[a] Oklahoma State University maintains this requirement for all but higher education majors.

This requirement was also more peculiar to Ed.D. programs, inasmuch as 56.6 percent of them required a teaching certificate, as compared to 42.6 percent of the Ph.D. programs. This fact likewise reflected a particular relationship to the public schools in Ed.D. programs in some institutions.

In regard to the administration of the Ed.D. program, surprisingly, a higher percentage of degree programs under graduate-college regulation required applicants to hold a valid teaching certificate than those Ed.D. programs administered directly by the college of education--56.4 percent of the graduate-college programs as against 45 percent of the college-of-education programs.

PROFESSIONAL EXPERIENCE

Teaching Experience

Related to the requirement of a teaching certificate were admissions policies regarding teaching experience. A total of 57 institutions required teaching experience, preferably upon admission, but definitely before completion of the doctorate. As shown in Table 21, two or three years of teaching experience constituted the usual requirement.

TABLE 21.--TEACHING EXPERIENCE REQUIRED FOR ADMISSION

Years of experience	Number of institutions	Percent
1	2	3
None	23	28.8%
One	3	3.8
Two	23	28.8
Three	21	26.2
Four	1	1.2
Five	1	1.2
Unspecified	8	10.0
Total	80	100.0%

Median . . . . 2 years
Range . . . . 0–5 years

Twenty-three institutions reported no such requirement. Several of these probably preferred that the candidate have had teaching experience prior to the award of the degree, if not upon admission; but only one institution, the University of Utah, reported such a preference in lieu of a formal requirement.

Of the sixty-six Ed.D. programs in the study, 24.2 percent did not require teaching experience, while 38.8 percent of the fifty-four Ph.D. programs did not. Four institutions that offered both degrees reported that the teaching experience requirement related only to their Ed.D. programs. A similar difference between the two degrees was noted in reference to the teaching certificate.

Greater emphasis was placed on teaching experience as an admissions requirement by public than private institutions; 80 percent of the public institutions required teaching experience, but only 55 percent of the private institutions did so.

More than 75 percent of the 39 Ed.D. programs administered by the graduate college required teaching experience; 70 percent of the 20 Ed.D. programs administered by the college of education had such a requirement. Here again, as with the teaching certificate requirement, graduate-college administration was slightly more demanding than that of the college of education.

Administrative Experience

Of the 67 institutions in the study that offered degrees in the field of school administration, 41 required administrative experience in addition to teaching experience. From two to three years was the predominant pattern for this requirement. Fourteen of the institutions that reported the requirement did not specify the desired length of experience. Twenty-six institutions reported no requirement along this line.

AGE REQUIREMENT

Only three institutions reported reliance upon absolute maximum ages as an admissions requirement; 24 other institutions did, however, report preferred maximum ages. These data are shown in Table 22.

TABLE 22.--PREFERRED MAXIMUM AGE AT TIME OF ADMISSION[a]

Preferred maximum age 1	Number 2	Percent 3
35 years	1	1.2%
40 years	13	16.2
45 years	11	13.8
50 years	2	2.5
Unspecified	8	10.0
No age requirement	45	56.3
Total	80	100.0%

Median[b] . . . . 40 years
Range[b] . . . . 35-50 years

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[a] The term preferred is used to convey the attitude reflected in the responses.

[b] Based on the institutions that reported preferred maximum ages.

Two of the institutions that prescribed the age requirement in unequivocal terms used age 45 as the maximum; the third used age 35.

Twenty-seven institutions stated an age requirement (prescribed or preferred); there was little difference between private and public institutions in this regard. Of the private institutions, 31 percent stated such a requirement, while 35 percent of the public institutions did so.

The difference between the two degrees regarding the age factor was somewhat greater. Preferred age maximums obtained in 27 percent of the Ed.D. programs, as compared to 39 percent of the Ph.D. programs, a slight indication that age was more a factor in determining Ph.D. than Ed.D. applicants. The graduate phase of this study revealed that the age of Ph.D. graduates in the two-year period, 1956-58, was slightly more than two years younger than the Ed.D. graduates.

No difference existed between the types of administrative unit regulating the Ed.D. program, nor were any differences apparent between the high and the low Ed.D. producers. Six of the high Ph.D. producers were among the 27 institutions with preferred maximum ages, as compared to 10 of the low Ph.D. producing institutions.

The preclusion of an applicant over 40 or 45 naturally tended to limit enrollment; the institutions without such stated limitations were in all probability the ones that graduated the most doctoral candidates over 45 years of age during the period 1956-58. The graduate phase revealed that one-fourth of all doctoral graduates in education during the study period were in this age range. This, of course, did not mean that these individuals were over 45 upon admission to their programs, but that they were nearing that age when admitted to study, or their degree programs took a considerable length of time.

One respondent in the institutional phase of the study stated his view on the age requirement by pointing out that "persons beyond 40 are apprised of the fact that the economic return is questionable." Another respondent summed up quite well the case for a preferred maximum age by saying that "a student's career must be essentially ahead of him and not behind him."

PROVISIONAL ADMISSION

Following the assessment of credentials, recommendations, previous academic and professional experience, and such other factors as age, final determination to admit an applicant to study included two alternatives in 49 of the institutions. In these universities, it was possible for a student to obtain either regular status upon admission or some form of provisional status. On the other hand, 30 institutions, or 38 percent of the total, admitted students on a regular basis or not at all. No differences were observed in the data shown in Table 23 relative to the level of production or the type of institution.

A slightly higher percentage (36.4) of the Ed.D. programs precluded students from provisional admission than did the Ph.D. programs (31.5). Graduate-college administered Ed.D. programs seemed less permissive in this regard. Of those programs administered by the graduate college, 44 percent did not permit provisional admission, while only 30 percent of the programs administered by the college of education precluded provisional admission.

TABLE 23.--PROVISIONAL ADMISSION

Response	Number	Percent
1	2	3
Yes	49	62.0%
No	30	38.0
Total[a]	79	100.0%

[a]One institution did not respond to the question.

Nine institutions indicated that the provisional, or nonmatriculated basis, was permitted to prevail for a relatively brief specified period of time. Of these nine, five specified the length in terms of 12 semester hours, one specified 15 semester hours, while another specified 8 semester hours. Two institutions reported their requirement in terms of one semester. Seven other institutions indicated that every doctoral applicant (for study, not candidacy) was admitted on a provisional or so-called probationary basis.

The following reasons were reported as determinants in awarding provisional status at admission time. The first reason was given by four different institutions, the second by two institutions, and the remaining reasons were each reported once.

- Borderline grade-point averages
- Deficiency in prerequisites
- Foreign students
- Unusual previous-work handicaps
- Lack of significant educational experience
- Inconclusive interview
- Inadequate experience in previous work
- Low entrance-examination score or questionable transcript.

It was interesting to note that three institutions reported plans to discourage, and possibly discontinue altogether, the practice of admitting doctoral students to study on anything but a regular basis. If provisional status has been permitted to prevail for an unreasonable period of time at the outset of doctoral degrees in education, as seemed to be the case in some institutions, such status may have had a delaying effect upon the accomplishment of degrees or upon the student's early goal determination.

If provisional status has led to the practice of students accumulating a mass of course credits prior to formal matriculation, such a practice perhaps has fostered a limited perception of doctoral study. Such a perception may have helped occasionally to identify the doctorate with a large block of course work along with a few necessary examination hurdles to endure toward the end of the pursuit, instead of a carefully worked out and comprehensive experience.

ENTRANCE EXAMINATIONS

One of the first so-called hurdles that has characterized doctoral study in education--the entrance examination--was administered as a part of admissions requirements in all but 15 of the participating institutions. The median number of examinations administered was two; however, 30 percent of the institutions administered only one examination, usually of a standardized nature, while one institution administered a battery of seven.

Only 15.2 percent of the Ed.D. programs did not include entrance examinations, while over one-fourth, or 27.8 percent, of the Ph.D. programs did not.

Of the 29 private institutions in the study, 9, or 31 percent, did not administer entrance examinations. Public institutions were more structured in this regard in that only 7, or 13.7 percent, did not have any form of entrance examination. No difference appeared in regard to the administrative unit or the level of production.

Three of the 15 institutions that did not have an admissions-examination requirement indicated, however, that they did administer locally constructed "qualifying examinations" relatively soon after admission to study. The University of Tennessee and the State College of Washington administered a qualifying examination in addition and prior to a separate examination used to determine advancement to candidacy. The University of Pennsylvania used a qualifying examination to advance the successful student to candidacy early in his program.

The University of Connecticut, the University of Chicago, and Teachers College of Columbia University reported that admissions examinations were not a formal requirement, but were asked for in some instances and by some advisers. When such a request was made at Columbia, forms of the Graduate Record Examination or the I.E.R. Intelligence Scale C.A.V.D. were used. At the University of Chicago, a locally constructed general-education examination was administered if the doctoral student was a graduate of an unaccredited college or university--the Graduate Record Examination was substituted in some cases.

Examinations Used

As shown in Table 24, the most frequently employed examination in the 65 institutions that required entrance examinations was the Miller Analogies Test. Nearly one-half of the 65 institutions used this examination.

Locally constructed entrance examinations were next in frequency. These were variously described by the respondents as consisting of diagnostic items dealing with problem situations, critical thinking, current events, general culture, educational information, vocabulary, English usage, and reading ability. In no instance were they described as similar to candidacy or comprehensive examinations, which included tests of competencies, skills, and knowledge acquired during doctoral study.

TABLE 24.—ADMISSIONS EXAMINATIONS USED

Examination[a]	Number	Percent
1	2	3
Miller Analogies Test	29	36.2%
Locally constructed test	19	23.7
Graduate Record Examination—Aptitude .	17	21.2
Graduate Record Examination—Advanced Education Area	15	18.7
Graduate Record Examination (unspecified)	11	13.7
Cooperative English Test	11	13.7
Ohio State Psychological Examination . .	7	8.7
Oral admissions examination	4	5.0
I.E.R. Intelligence Scale C.A.V.D.	4	5.0
Minnesota Multiphasic Personality Inventory.	3	3.7
Miller Analogies Test or Graduate Record Examination (unspecified)	3	3.7
ACE Psychological Examination	2	2.5
ACE Quantitative Examination	1	1.2
Otis Quick-Scoring Test of Mental Ability	1	1.2
Wechsler-Bellevue Adult Intelligence Scale	1	1.2
General Classification Test	1	1.2
National Teachers Examinations	1	1.2
Library Research Examination	1	1.2
Terman Concept Mastery Test	1	1.2
Sequential Test of Education Progress . . .	1	1.2
Graduate Record Examination—Humanities Area.	1	1.2
Graduate Record Examination—Social Science Area	1	1.2
Graduate Record Examination—Natural Science.	1	1.2
Graduate Record Examination (area test unspecified)	1	1.2
Jarecke Teaching Judgment Test	1	1.2
Minnesota Teacher Attitude Inventory . .	1	1.2
Allport—Study of Values	1	1.2
Watson—Glaser Tests of Critical Thinking	1	1.2
No examination requirement reported. . .	15	18.8

[a] More than one examination was administered in several institutions, accounting for the absence of column totals.

Forms of the Graduate Record Examination followed next in frequency. The Cooperative English Test was last in order of frequency of those examinations administered in more than 10 percent of the institutions in the study. Eight of the 11 institutions using Cooperative English Tests did not specify which of the levels were employed. One institution reported use of Levels A (Mechanics of Expression), B_2 (Effectiveness of Expression), and C_2 (Reading Comprehension); two other institutions reported use of C_2 only. It was assumed that in all cases only the higher-level tests in the Cooperative English Test battery were employed.

Several institutions reported anticipated changes in their admissions testing: Boston University and North Carolina College at Durham planned to add the Graduate Record Examination. The University of North Dakota was studying the desirability of requiring the Miller Analogies Test or the Graduate Record Examination, along with the Cooperative English Test or a similar measurement instrument. The University of North Dakota was devising tests in at least eight areas. The University of Virginia and the University of Tennessee were planning specific examination requirements.

ADMISSIONS INTERVIEWS

Fifty-six of the 80 institutions required at least one personal interview prior to, or upon admission to, the doctoral program. Fifteen of these 56 institutions required two different interviews, 5 required three, and 2 required four separate interviews. Of the 24 institutions without this requirement, slightly more Ph.D. programs (33.3 percent) did not follow the procedure than Ed.D. programs (27.1 percent). The graduate phase of the study also revealed that Ph.D. graduates differed significantly from Ed.D. recipients on their response to the completeness of the initial interview; the difference was in the direction of a more negative feeling by Ph.D. graduates. The proportion of negative responses for all individuals on this item was higher than on the other items based on attitudinal scales included in the graduate phase. These facts indicated a definite need for improvement in existing requirements for personal interviews and also the need for several institutions to consider adding such a requirement in the first place.

Of the Ed.D. programs administered by the college of education, 35 percent did not include formally required interviews, as compared to 24 percent of the Ed.D. programs administered by the graduate college.

No differences emerged when the data were compared according to the type of institution or level of production.

TABLE 25.--PERSON(S) RESPONSIBLE FOR ADMISSIONS INTERVIEWING

Interviewer[a]	Number	Percent
1	2	3
Dean or director of education	16	20.0%
Prospective adviser or major professor . . .	16	20.0
Faculty committee	14	17.5
Faculty members individually (usually from area of proposed study) .	10	12.5
Chairman, division of graduate study in college, school, division, or department of education	9	11.2
Graduate dean	7	8.7
Vice or assistant dean of education	4	5.0
Admissions officer	2	2.5
Director of personnel	1	1.2
Professors at other institutions.	1	1.2
Alumni	1	1.2
Department interview (unspecified)	1	1.2

[a] In several institutions more than one interview was conducted, accounting for absence of column totals.

Table 25 includes a list of the officials with whom admissions interviews were conducted in institutions where the requirement was in operation.

The administrative head of the education unit and the prospective adviser were the two most frequently used interviewers.

Fourteen institutions reported use of a faculty committee or group interview situation. At Texas Technological College the committee was composed of education faculty members, with at least one additional member from another faculty. At Colorado State College the interview was conducted by a committee composed of staff from the total faculty, the majority not from the Division of Education.

Three institutions reported that the interview committee was composed of three members, one institution reported a membership of five, and another institution reported a membership of seven.

At the College of the Pacific the interview group was called a "screening committee"; at the University of Kentucky its title was "special admissions committee."

Teachers College of Columbia University reported that:

> ...in some instances, departmental advisers at Teachers College get in touch with professors at institutions in other parts of the country and make arrangements for interviewing when distance precludes the possibility of the applicant coming to the College.

Harvard University used alumni to conduct admissions interviews. At both Harvard and Columbia, the admissions interview was similar to a recruitment device employed by them (see Chapter VI, page 54).

Despite the manner in which the interview session was conducted or the purposes for which the university perceived the interview, it was apparent from the graduate phase of the study that doctoral students themselves sought information and advice that they often did not receive to their satisfaction. The institutional phase of the study did not seek to ascertain the opinion of administrators toward this or any other requirement. However, it is worth noting that well over one-fourth of the institutions saw no apparent benefits to be derived from such a requirement for the institution or the candidate, since they made no provisions for it.

ADMISSIONS COUNSELING

Related to the requirement for personal interviews, and perhaps in some institutions a part of that requirement, was the practice of making available some form of admissions counseling to applicants. It was not readily clear what the 63 institutions that offered admissions counseling included in this service; however, admissions counseling was assumed to include general degree planning with advice about related conditions rather formally conducted by persons or agencies other than the regular programming adviser. This seemed a likely assumption, since few regular advisers have the time or resources for all counseling demands at the doctoral level.

As shown in Table 26, almost twice as many private institutions (31.1 percent) did not offer admissions counseling, as compared to public institutions (15.7 percent). Eight institutions in the study offered neither admissions counseling nor personal interviews.

TABLE 26.--ADMISSIONS COUNSELING AVAILABLE

Admissions counseling offered	Public institutions		Private institutions		All institutions	
	Number	Percent	Number	Percent	Number	Percent
1	2	3	4	5	6	7
Yes	43	84.3%	20	68.9%	63	78.8%
No.	8	15.7	9	31.1	17	21.2
Total	51	100.0%	29	100.0%	80	100.0%

No differences were apparent in these data between the two degrees; this was not the case relative to personal interviews, a requirement that tended to obtain in slightly more Ed.D. than Ph.D. programs.

Of the 20 Ed.D. programs administered by the college of education, 75 percent offered admissions counseling, as compared to 80 percent of the 39 Ed.D. programs administered by the graduate college.

No differences appeared between the high and the low Ph.D.-producing institutions. Only two of the high Ed.D.-producing institutions did not have admissions counseling, while four of the low Ed.D. producers did not. The two high Ed.D. producers without admissions counseling graduated 116 persons during the two-year period 1956-58, as compared to 35 graduates from the four low Ed.D. producers, a fact which somewhat minimizes the effect of the difference in this respect.

TABLE 27.--SOURCE OF ADMISSIONS COUNSELING

Service offered	Number of institutions	Percent of 80	Number offering only one service	Percent of 80
1	2	3	4	5
Counseling within college, school, or department of education	53	66.3%	31	38.8%
Counseling provided by institution's general personnel services	9	11.3	3	3.8
Counseling provided by graduate college . . .	20	25.0	3	3.8
Other[a]	9	11.3	2	2.5

[a] Includes counseling services offered variously by the director of advanced studies, assistant graduate dean in charge of admissions, director of courses and/or staff members other than adviser, an advisory committee, a temporary adviser, director of graduate studies in the department of education, or director of personnel in the college of education.

As noted in Table 27, the two main sources for admissions counseling were within the education unit and the graduate college. Very few respondents reported use of the institution's general student personnel services. Of the 20 institutions that reported admissions counseling as a provision of the graduate college, not all of the doctoral programs in education in these universities were administered by the graduate college. Five Ed.D. programs and four Ph.D. programs under the direct regulation of the college of education nevertheless made use of the graduate college for admissions counseling.

Four institutions reported plans underway for the improvement of counseling services, including admissions counseling for doctoral students in education. Among these four were Auburn University, the University of South Carolina, and the University of Arizona. The University of Maryland reported that a full-time counselor soon would be available to graduate students within its College of Education.

One institution reported that its admissions counseling was not a systematic or organized service and added that "no doubt a great deal of haphazard, 'off-the-cuff' advice and information is given." Perhaps this was better than none. However, neither this institution nor any other in the study would have subscribed to the contention that doctoral study should be undertaken in a similar manner--haphazard, lacking in system, or unorganized. Ironically enough, adequate counseling has been purported to preclude or correct such random behavior.

SUMMARY

In all of the institutions, it was standard practice to require a bachelor's degree of the doctoral applicant and in three-fourths of them a master's degree was also required. Letters of recommendation, entrance examinations, and previous grade-point averages in the "B" range were also found among admissions requirements in a majority of the cases.

Other admissions requirements were not as standard or widespread. Some institutions admitted students on a regular basis only; others provided some form of provisional admission. Many institutions had admissions counseling and interviewing; many others did not. Valid teaching certificates had to be presented by applicants in some institutions, along with evidence of considerable teaching experience; other institutions had no such requirements. In short, there was wide variety among the participants relative to the permissiveness of certain admissions prerequisites. There was equally wide variety among them relative to the flexibility of their admissions policies after the applicant's credentials had been studied and approved.

The Ed.D. and Ph.D. programs differed somewhat in regard to admissions requirements. The

Ed.D. program, for instance, was considerably more demanding in respect to teaching certificates and experience, a distinguishing element attributable in part to the orientation of the Ed.D. degree at some institutions. Ed.D. programs also tended to be more structured in requiring entrance examinations and admissions interviews. Fewer institutions offered provisional admission to Ed.D. applicants than Ph.D. applicants, another indication of less flexibility. However, more Ph.D. programs had preferred age maximums.

Private institutions were noticeably more permissive and flexible in many of their admissions requirements than were public institutions. Private institutions were less demanding in requiring a master's degree, letters of recommendation, teaching certificates, and teaching experience. They tended to be less structured relative to the establishment of arbitrary grade-point averages on both undergraduate and previous graduate work; approximately one-half of the private institutions had no stated or preferred grade-point averages. However, private institutions that stated desired averages were slightly more demanding than public institutions in their insistence on "B" work or better. Private institutions were also less structured in regard to the administration of entrance examinations and to the establishment of admissions counseling services.

Ed.D. programs controlled by the graduate college showed tendencies toward more structured admissions policies than college-of-education controlled programs. This was true in relation to the teaching certificate, provisional admission, and admissions interviewing and counseling. The graduate college was less demanding about letters of recommendation, however, than was the college of education.

There were few differences between high- and low-producing institutions. The 18 high Ed.D. producers were slightly less demanding than the 18 low Ed.D. producers in regard to the undergraduate grade-point average falling in the "B" range. The 18 high Ph.D. producers were slightly more restrictive in accepting less than a "B" average on previous graduate study than the 18 low Ph.D. producers. More high Ph.D. producers had also stated preferred age maximums than low Ph.D. producers.

Of all the admissions practices studied, the least emphasized requirement, at least in unequivocal terms, was the age factor.

Chapter V

CURRICULAR REQUIREMENTS

Another group of requirements that characterized doctoral study dealt with curricular policies and procedures, analyses of which are included in this Chapter.

Admissions as a term used herein refers to admission to candidacy, as distinguished from the usage in the previous Chapter, unless otherwise noted.

Only 80 of the responding institutions were used in these analyses; one university did not complete the part of the questionnaire that dealt with curricular requirements.

Data relative to credit hours, as in the preceding Chapter, are reported in terms of semester hours.

Since this study made an effort to examine the doctorate as a separate entity within the field of graduate education, analyses in this Chapter, and all others for that matter, treat doctoral degrees as distinct from master's degree work. This is particularly important in relation to curricular procedures because of the practice in some institutions to compute all graduate course-hour requirements in a unitary manner above the baccalaureate degree.

HOURS REQUIREMENTS

Total Semester Hours

As shown in Table 28, all but 9, or 13.6 percent, of the sixty-six Ed.D. programs had a relatively formal requirement pertaining to the number of total hours, including the thesis, that doctoral students were expected to earn. Thirteen, or 24 percent, of the fifty-four Ph.D. programs had no such requirement.

The median number of hours required of the Ed.D. student was 60, while the median for the Ph.D. was 48. There was less variability among Ed.D. programs, however, since they exhibited a semi-interquartile range of 6 as compared to 12 for the Ph.D. programs.

The total ranges for both degrees were extreme. For the Ed.D. degree, the range was from 30 to 90; for the Ph.D. degree, the range was even larger, from 20 to 96. The questionnaire stipulated that total-hours requirements were to be reported in reference to the doctorate alone, as distinct from the master's degree. Possible explanation for the few institutions that reported distinctly atypical numbers is that several institutions did not grant any credit hours for the dissertation or foreign-language requirements, while others granted a considerable number of hours for these.

TABLE 28.--TOTAL SEMESTER HOURS REQUIRED

Hours	Ed. D. programs		Ph. D. programs	
	Number	Percent	Number	Percent
1	2	3	4	5
20-24	...	...	1	1.9%
25-29	...	...	1	1.9
30-34	3	4.5%	6	11.1
35-39	3	4.5	3	5.6
40-44	5	7.6	3	5.6
45-49	7	10.6	7	12.8
50-54	5	7.6	2	3.7
55-59	2	3.0	1	1.9
60-64	24	36.5	13	24.0
65-69	1	1.5	...	...
70-74	4	6.1	1	1.9
75-79	2	3.0	1	1.9
80 and above . . .	1	1.5	2	3.7
Not specified . . .	9	13.6	13	24.0
Total.	66	100.0%	54	100.0%
Mean[a]	55.2	hours	52.3	hours
Median[a]	60	hours	48	hours
Range[a]	30-90	hours	20-96	hours
Q[a]	6	hours	12	hours

[a] Based on institutions that reported a specified number of hours.

Among the institutions that did not report any recommended number of total hours were the University of Kansas, George Washington University, Radcliffe College, the University of Chicago, and the University of Florida. Other universities reported that the hours requirement was computed beyond the baccalaureate degree only.

One institution remarked that it was inconceivable to think of calculating the doctorate in terms of hours. This was hardly a reflection on those institutions that did report such a requirement because, in all probability, they likewise did not think of the doctorate in terms of course hours. Perhaps they simply used the credit-hour approach as a systematic method of keeping records relative to one aspect of doctoral study and as a means of placing a control on course work.

The publicly controlled institutions tended to require more total semester hours than did the privately controlled institutions. A median of 60 hours was required for the Ed.D. degree in public institutions, as compared to a median of 52 in private institutions. Similarly, a median of 55 hours was required in public institutions for the Ph.D. degree, while only 48 hours were required in private institutions.

The high Ed.D. producers tended to require more semester hours than the low Ed.D. producers. The 18 high Ed.D. degree-producing institutions required a median of 60 semester hours, as compared to a median of 51 semester hours in the 18 low Ed.D. degree-producing institutions. The reverse was true of the Ph.D. degree, with the high producers requiring a median of 36 semester hours and the low producers a median of 48.

Ed.D. programs administered by the graduate college required a median of 60 semester hours, as compared to 56.5 semester hours required by programs administered by the college of education.

Minimum Hours at Institution

As shown in Table 29, the median was 30 hours beyond the master's degree required for both the Ed.D. and the Ph.D. programs at the institution from which the doctorate was granted. Since the median number of total hours for the Ed.D. degree was 60, this meant that generally at least one-half of that total had to be taken at the degree-granting institution. By similar calculations, five-eighths of the Ph.D. hours had to be earned at the "home" institution.

TABLE 29.--MINIMUM NUMBER OF HOURS BEYOND THE MASTER'S DEGREE REQUIRED AT THE INSTITUTION BY WHICH DOCTORATE IS TO BE GRANTED

Hours	Ed.D. programs		Ph.D. programs	
	Number	Percent	Number	Percent
1	2	3	4	5
15-19	...	...	1	1.9%
20-24	7	10.6%	7	13.0
25-29	1	1.5	2	3.7
30-34	23	34.9	13	24.1
35-39	7	10.6	4	7.4
40-44	6	9.1	4	7.4
45-49	6	9.1	5	9.3
50-54	3	4.5	3	5.5
55-59	...	...	...	...
60-64	5	7.6	3	5.5
Not specified	8	12.1	12	22.2
Total	66	100.0%	54	100.0%
Mean[a]	36.6 hours		36.0 hours	
Median[a]	30 hours		30 hours	
Range[a]	24-60 hours		18-60 hours	
Q[a]	7.5 hours		8 hours	

[a]Based on institutions that reported a specified number of hours.

Ed.D. and Ph.D. programs in public institutions typically required 30 hours at the degree-granting institution; privately controlled institutions usually required more than this. For the Ph.D. programs in private institutions a median of 40.5 hours was required, while a median of 35.5 hours was required for the Ed.D. programs.

The low producers were typically less demanding in this regard. The low Ed.D. producers required a median of 33.5 hours, while the high Ed.D. producers required a median of 40.5 hours. The low Ph.D. producers required a median of 30 hours, as compared to 32.5 required by the high Ph.D. producers.

Graduate-college administration was more flexible than college-of-education administration. The Ed.D. programs administered by the graduate college required a median of 30 hours, while college-of-education administered programs required 35.5 hours.

Four institutions that granted both degrees differentiated between the Ed.D. and Ph.D. degrees for this requirement. New York University, the University of Wyoming, and Yeshiva University required a higher minimum number of hours to be earned at their universities of the Ed.D. than the Ph.D. student. The reverse was true at St. John's University.

Several of the institutions that did not specify this requirement in terms of hours did so in terms of a residence period. For instance, at the University of North Dakota, the University of Minnesota, the University of Kentucky, Oklahoma State University, the University of Florida, and the University of Connecticut, the requirement pertaining to work that had to be completed at the degree-granting institution was stated in terms of at least one full year of residence.

Transferable Hours, Including the Master's Degree

According to Table 30, the median number of hours accepted on transfer, including the master's degree, was 45 for the Ed.D. degree and 42.5 for the Ph.D. degree.

Here again, private institutions tended to be less permissive than public institutions. The median hours accepted for Ph.D. programs in private institutions was 40, as compared to 45 for public institutions. For Ed.D. programs, a median of 40 hours was accepted in private institutions, while public institutions accepted a median of 48 hours.

Graduate-college administered Ed.D. programs accepted a median of 52 hours, while college-of-education administered Ed.D. programs accepted a median of 45 hours.

Low producers, especially in regard to the Ph.D. degree, typically accepted more hours on transfer than high producers. The median was 53.6 hours for low Ph.D. producers, as compared to 38.8 hours for high Ph.D. producers. The median was 46.8

TABLE 30.--MAXIMUM NUMBER OF TRANSFERABLE HOURS, INCLUDING MASTER'S DEGREE

Hours	Ed.D. programs		Ph.D. programs	
	Number	Percent	Number	Percent
1	2	3	4	5
15-19	...	...	1	1.8%
20-24	...	...	2	3.7
25-29	...	...	...	...
30-34	9	13.6%	4	7.4
35-39	5	7.6	5	9.3
40-44	5	7.6	5	9.3
45-49	6	9.1	5	9.3
50-54	4	6.1	2	3.7
55-59	3	4.5	3	5.6
60-64	8	12.1	5	9.3
Not specified . . .	26	39.4	22	40.6
Total.	66	100.0%	54	100.0%
Mean*	45.1 hours		43.3 hours	
Median*	45 hours		42.5 hours	
Range*	30-60 hours		18-60 hours	
Q*	10.5 hours		10 hours	

*Based on institutions that reported a specified number of hours.

hours for low Ed.D. producers and 45 for high Ed.D. producers.

Transferable Hours, Beyond the Master's Degree

Related to the previous analysis and, in fact, integrated with it, was a study of the number of hours beyond the master's degree accepted on transfer. Approximately 40 percent of the respondents did not specify a limitation on transferable hours including the master's degree; whereas, approximately 47 percent specified no limitation on transferable hours beyond the master's degree (see Tables 30 and 31).

It was assumed from an analysis of Table 31 that the total number of hours accepted on the basis of the master's degree had been transferred and counted. Therefore, this table included only course-work credits that may have been earned at an institution other than the "home" institution during the pursuit of the doctorate. Four Ed.D. programs and three Ph.D. programs were described as precluding the doctoral student from such a possibility; these programs were in five different institutions. Based on those institutions that reported a specified number of hours, the median was 16 for the Ed.D. degree and 17.5 for the Ph.D. degree.

TABLE 31.--MAXIMUM NUMBER OF TRANSFERABLE HOURS BEYOND MASTER'S DEGREE

Hours	Ed.D. programs		Ph.D. programs	
	Number	Percent	Number	Percent
1	2	3	4	5
0- 4	4	6.1%	3	5.5%
5- 9	5	7.6	3	5.6
10-14	5	7.6	5	9.3
15-19	6	9.1	6	11.1
20-24	6	9.1	4	7.4
25-29	2	3.0	2	3.7
30-34	7	10.6	5	9.3
35-40	1	1.5	...	...
Not specified . . .	30	45.4	26	48.1
Total.	66	100.0%	54	100.0%
Mean*	16.7 hours		16.4 hours	
Median*	16 hours		17.5 hours	
Range*	0-35 hours		0-30 hours	
Q*	9 hours		9 hours	

*Based on institutions that reported a specified number of hours.

The practice of accepting additional hours beyond the master's degree on transfer was decidedly more peculiar to the public institution than the private. Ed.D. programs in public institutions accepted a median of 22 hours on this basis, as compared to a median of only 11 hours in privately controlled institutions. For the Ph.D. degree, public institutions accepted a median of as many as 27 hours, as compared to a median of only 10 hours in private institutions.

Graduate-college administered programs accepted a median of 24 hours beyond the master's degree on transfer, while college-of-education administered programs accepted a median of exactly one-half that number.

Low producers typically were more permissive in this regard than high producers, with the low Ed.D. producers accepting a median of as many as 19.5 hours, while the high Ed.D. producers accepted a median of only 13. The low Ph.D. producers accepted a median of 24.3 hours, as compared to a median of only 15.2 hours acceptable by the high Ph.D. producers.

The respondents were asked to indicate the number of years within which transferable hours were applicable. Twenty-six institutions reported such a set limitation. The median number of years reported was seven, with the range from five to ten years. Nine institutions set the limit at five years, while three permitted as many as ten years.

RESIDENCE REQUIREMENTS

A study of short descriptive statements on residence requirements, listed in Table 32, revealed that they formed a continuum. The various residence requirements in the middle of the continuum were difficult to categorize; the extremes, however, were more obvious--from Ed.D. and Ph.D. programs that required the student to be registered full-time for two consecutive semesters (or three quarters) to programs that permitted any combination of day, evening, Saturday, or summer classes. Along with the more stringent extremes, Table 32 also includes similar requirements in the middle of the continuum that indicate that less discretion was permitted the candidate in determining the "pacing" of his doctoral study than might have been true of more lenient residence requirements.

TABLE 32.—RESIDENCE REQUIREMENTS

Residence requirement	Ed.D. programs	Ph.D. programs
1	2	3
2 consecutive semesters, or 3 quarters, full time.	25	21
2 semesters, or 3 quarters, sometime during pursuit of degree	11	15
2 consecutive semesters, or 3 quarters, sometime during pursuit of degree	3	5
24 semester hours within 2 consecutive academic years	1	1
2 graduate courses in each of 4 consecutive semesters	1	...
18 semester hours in one full year . .	1	...
12 semester hours within a 12-month period, exclusive of summer session hours.	...	1
12 semester hours within a 12-month period.	1	...
1 semester, plus two summer sessions.	2	...
1 semester, plus one summer session, consecutively	1	1
1 semester or 2 quarters, full time . .	2	1
Any combination of day, evening, Saturday, or summer classes	18	9
Total.	66	54

An inspection of Table 32 reveals that Ph.D. programs were more often characterized by less permissive residence requirements than Ed.D. programs. Six of the forty-one responding institutions that granted both degrees reported different residence requirements for each degree. At the University of Arizona, the Ph.D. candidate was required to spend two consecutive semesters in residence during pursuit of the degree, while the Ed.D. candidate was permitted to spend only one semester, plus an unspecified number of summer sessions.

The Ph.D. candidate at the University of Oklahoma had to spend two semesters in residence sometime during pursuit of the doctorate, while the Ed.D. candidate was permitted to fulfill his residency by attending during four nonconsecutive summer sessions.

The Ph.D. candidate at the University of North Dakota was required to spend a full academic year in residence, while the Ed.D. candidate was permitted to attend one semester followed or preceded by a summer session.

The 12 semester hours required within a 12-month period at the University of Pennsylvania included summer sessions for the Ed.D. degree, but was exclusive of summers for the Ph.D. degree; and at Pennsylvania State University any combination of day, evening, Saturday, or summer classes sufficed for the Ed.D. degree, but the Ph.D. degree required that the student complete two regular semesters in residence.

These institutions illustrated the fact that comparatively more stringent requirements obtained in relation to the Ph.D. degree. Perhaps this was an influence of graduate-college administration which, in almost all cases, had jurisdiction over the Ph.D. degree.

Evidence of the relationship between stringency of residence requirements and graduate-college administration was revealed through a comparison of the two major types of administrative control exercised over the Ed.D. degree. Of the 25 Ed.D. programs that required full-time enrollment during at least two consecutive semesters, 21, or 84 percent, of them were under graduate-college control; three, or 14 percent, were administered by the college of education; the remainder were under the dual-administration arrangement.

Data were not available to indicate the actual effect residence requirements had on production or on the length of time taken for completion of the degrees. It was interesting to observe, however, in relation to the Ed.D. degree, that the 18 high producers tended to be less stringent in this regard than the low producers. Only 4 of the 18 high Ed.D.-producing institutions required two consecutive semesters (or three quarters) of full-time enrollment as compared to 15 of the 18 low Ed.D. producers. At the other end of the continuum, 7 of the high producers permitted residence requirements to be fulfilled through any combination of day, evening, Saturday, or summer classes, while only two of the low producers reported this more permissive attitude. No difference emerged when high and low Ph.D. producers were compared.

More latitude appeared to be present in this regard in private than public institutions. Of the private institutions in the study, 23.3 percent reported that students were required to be registered full time for two consecutive semesters, as compared to 35.3 percent of the public institutions. Conversely, 26.6 percent of the private institutions permitted doctoral students to satisfy residence requirements through any combination of day, evening, Saturday, or summer classes, as compared to 19.6 percent of the public institutions.

While the data did not actually reveal curricular philosophy relative to residency, they did indicate the degrees of latitude prevalent among the institutions, some of which have continued to hold to the idea that graduate study must include a definite period of prolonged and uninterrupted enrollment, while others have evidently yielded to the employment demands of candidates--many of whom were engaged in public-school education--by permitting doctoral study to proceed at the student's convenience.

TABLE 33.--RECOMMENDED MAXIMUM TIME FOR DEGREE COMPLETION

Years	Number	Percent
1	2	3
After initial admission		
3	1	1.3%
4	3	3.6
5	12	15.0
6	6	7.4
7	14	17.5
8	10[a]	12.5
8½	1	1.3
9	...	...
10	6	7.5
11	...	...
12	1	1.3
After final written exam		
3	1	1.3
After admission to candidacy		
3	1	1.3
5	2	2.5
Not specified	22	27.5
Total.	80	100.0%
Mean[b]	6.8 years	
Median[b]	7 years	
Range[b]	3-12 years	

[a] Includes time recommended for the Ed.D. degree only at the University of Pennsylvania. This university recommended seven years for the Ph.D. and eight years for the Ed.D. and was the only one that differentiated between the two degrees on this basis.

[b] Based on the 54 unqualified answers.

THE TIME FACTOR

Recommended Maximum

As shown in Table 33, considerable diversity existed among the institutions relative to the maximum period of time recommended for completion of the doctorate in education. Time, in this analysis, referred to the recommended number of years the student should take for doctoral study from admission to study (not candidacy) through graduation. Four of the institutions reported the time factor in relation to admission to candidacy only.

Among the 54 institutions that stated a recommended maximum, the median and modal number of years was seven. The range was from three to twelve years.

Based on the total number of Ed.D. and Ph.D. programs, no differences emerged between the two. The University of Pennsylvania was the only institution with both degree programs that recommended a different maximum for the two degrees. Seven years were recommended for the Ph.D. and eight for the Ed.D. degree.

The 18 high Ed.D. and 18 high Ph.D. producers recommended a maximum of six years, one year less than the median recommended time for the 18 low Ed.D. and 18 low Ph.D. producers, an indication that perhaps one of the factors influencing higher production was the perception by the institution of a shorter period of time necessary for completing the degree. This was an interesting observation in view of the fact that the high producers tended to have more lenient residence requirements.

The median in the private institutions was six years, while the median for public institutions was seven years. Here again, private institutions, which tended to be less stringent in regard to residency, perceived the degree period as slightly less prolonged than was true of public universities.

No differences were noted between the two major types of administrative control.

The respondents were asked to indicate what conditions permitted candidates to deviate from the recommended time maximum. Only one institution reported that the time limit permitted absolutely no deviations. This institution, however, set its maximum at 10 years.

The circumstance most often mentioned as a reason for time extension was military obligations; ten institutions reported this as a reason. One respondent reported that candidates became over-age if their degree had not been completed in six calendar years, with the exception of any reasonable military obligation.

Other reasons given were foreign residency, serious or prolonged illness, child bearing, financial stress, dissertation difficulties, any extenuating circumstance beyond the control of the candidate, and continuous professional employment. The institution that mentioned continuous professional employment as a reason reported that it planned to be less permissive in this regard.

Two institutions that did not have recommended time limits were planning to adopt such a policy. One institution with a five-year time limit was planning to extend it to six years, and another institution that had no firm prohibition against a longer period of time than ten years planned to make that limit absolute.

By and large, most of the respondents showed an interest in prescribing the time beyond which doctoral students were not permitted to extend their programs. Typically, this was seven years, which appeared to be a liberal "limitation," since the median age attained by doctoral graduates was 38 or 39, as revealed by the graduate phase of this study. The requirement of a time limitation itself was probably not a primary determinant of production, inasmuch as other conditions were fundamentally operating to affect the time it took candidates to complete their work; among these conditions were finance, interruptions because of employment, housing, and other personal problems. Nevertheless, those institutions that prescribed a maximum time, not to exceed five years or less, probably helped to sharpen goal determination, minimize seemingly insurmountable circumstances, and bring candidates to the point of completing their programs.

Estimated Time for Degree Completion

Part-time students, it was reported, needed five years to complete the doctoral degree; full-time students in general completed their programs in three years. Time, in this analysis as in the preceding, referred to the entire program from initial admission to study through graduation. As indicated in Table 34, the range for part-time students was from three years for some institutions to as many as twelve years in one institution. For full-time students, the range was from two years in 23.6 percent of the responding institutions to six and one-half years in one institution.

TABLE 34.--ESTIMATED AVERAGE LENGTH OF TIME FOR DEGREE COMPLETION

Years	Part-time students		Full-time students	
	Number	Percent	Number	Percent
1	2	3	4	5
2	...	...	17	23.6%
2½	...	...	7	9.7
3	3	4.4%	31	43.1
3½	...	...	6	8.3
4	3	4.4	6	8.3
4½	3	4.4	...	...
5	30	44.1	4	5.6
5½	1	1.5	...	...
6	9	13.2	...	...
6½	3	4.4	1	1.4
7	8	11.8	...	...
8	6	8.8	...	...
9	...	...	...	...
10	1	1.5	...	...
11	...	...	...	...
12	1	1.5	...	...
Total...	68	100.0%	72	100.0%
Mean[a]	6 years		3 years	
Median[a]	5 years		3 years	
Range[a]	3-12 years		2-6½ years	

[a] Based on the institutions that gave estimates. Twelve institutions gave no estimate regarding part-time students and eight gave no estimate regarding full-time students.

No differences emerged from the data during comparative analyses based on type of institution, type of administrative control, or level of production. Seven of the institutions that reported a period of time longer than the median of five years for part-time students were also above the median of seven recommended years as a maximum. Perhaps these universities perceived the doctorate as a more prolonged process than was typical. As a result, such a perception may have contributed to the actual engagement of students for a longer period of doctoral study.

TABLE 35.--MINIMUM NUMBER OF HOURS REQUIRED IN PROFESSIONAL EDUCATION COURSES

Hours	Ed.D. programs		Ph.D. programs	
	Number	Percent	Number	Percent
1	2	3	4	5
5- 9......	1	1.5%	...	...
10-14......	3	4.5	1	1.8%
15-19......	5	7.6	2	3.7
20-24......	5	7.6	3	5.6
25-29......	1	1.5	1	1.8
30-34......	6	9.1	6	11.1
35-39......	4	6.1	5	9.3
40-44......	2	3.0	...	...
45-49......	6	9.1	4	7.4
50-54......	3	4.5	1	1.8
55-59......	...	...	...	...
60-64......	4	6.1	5	9.3
Not specified .	26	39.4	26	48.2
Total...	66	100.0%	54	100.0%
Mean[a]	33.7 hours		37.3 hours	
Median[a]	32 hours		36 hours	
Range[a]	6-60 hours		12-63 hours	
Q[a]	13 hours		10.5 hours	

[a] Based on institutions that reported a specified number of hours. The above medians do not, however, represent the central tendency among all the reporting institutions, since 39.4 percent of the Ed.D. programs have no specified requirement and an even larger percentage (48.2) of the Ph.D. programs have no specified requirement.

COURSES WITHIN THE EDUCATION UNIT

Approximately 40 percent of the Ed.D. programs and close to 50 percent of the Ph.D. programs had no specified minimum number of semester hours beyond the master's degree. Among the institutions that reported such a specification, the median was 32 hours for the Ed.D. degree and even more than that (36) for the Ph.D. degree.

It is worth noting the extremes in this requirement. As shown in Table 35, one institution stated this minimum for the Ed.D. degree as only six hours! No doubt, most candidates at this institution went considerably beyond the minimum, but it was interesting to observe the statement of such a minimal requirement pertaining to the field in which the degree was to be granted. In fact, nine institutions stated their minimum requirement in education courses in terms of less than 20 semester hours for the Ed.D. degree; three Ph.D. programs had similarly low minimums. At the other extreme, four Ed.D. programs and five Ph.D. programs required a minimum of 60 hours or more in education courses.

The median total number of credit hours required for the Ed.D. degree was 60 semester hours, shown in Table 28. The median number of hours in education courses, according to Table 35, in the institutions that specified a minimum, was 32 semester hours, an indication that, in at least some of the responding institutions, the typical Ed.D. candidate was required to take slightly over one-half of his course work in professional courses. In those few institutions that required as many as 60 hours of education courses as a minimum, apparently most of the courses in the doctoral program were of necessity taken within the education unit.

The median total number of credit hours required for the Ph.D. degree was 48 hours, as shown in Table 28. The median number of hours in education courses, according to Table 35, in the institutions that specified a minimum, was 36 hours, an indication that in at least some of the responding institutions the typical Ph.D. candidate was required to take three-fourths of his course work in the field of education. Here, too, some Ph.D. programs required more hours in education courses than others required for the entire program.

No reason was apparent why the Ph.D. programs showed a slightly greater emphasis on education courses than did the Ed.D. programs; however, no effort to establish generalizations was made because of the fact that so many institutions did not specify this requirement in terms of hours for either degree, thereby precluding a comprehensive analysis. Nevertheless, it is interesting to observe, on the basis of data available, the reverse of what might have been expected in this regard, in view of the assumed "professional orientation" of the Ed.D. degree.

Also somewhat surprising is the fact that in a comparison of the Ed.D. programs under graduate-college control with those under college-of-education control, the latter programs set the minimum at 32 semester hours in education courses while graduate-college programs had a minimum of 42 semester hours in education courses.

Private and public institutions varied very little, if any, in this regard and sufficient data on which tó compare high with low producers were not available.

HOURS OUTSIDE THE FIELD

Analyses of data shown in Table 36 were largely restricted to negative responses, since only 37.9 percent of the Ed.D. degree-granting institutions reported a specified minimum number of hours beyond the master's degree outside the field of education, and only 42.7 percent of the Ph.D. degree-granting institutions reported such a stated minimum. In the institutions that specified a minimum, the median number of required hours was 18 for the Ed.D. degree and 15 for the Ph.D. degree. Proportionally, these were almost identical requirements, since the two degrees differed in respect to the total number of hours usually required. The only other differentiation noted between the two degrees was that in two institutions that offered both, there was a specified minimum number of hours to be earned outside the field of education for the Ed.D. degree but none for the Ph.D. degree; the reverse was true in three other institutions.

TABLE 36.--MINIMUM NUMBER OF HOURS REQUIRED OUTSIDE THE FIELD OF EDUCATION

Hours	Ed.D. programs		Ph.D. programs	
	Number	Percent	Number	Percent
1	2	3	4	5
5- 9	2	3.0%	3	5.6%
10-14	5	7.6	5	9.3
15-19	6	9.1	7	12.9
20-24	7	10.6	3	5.6
25-30	3	4.6	2	3.7
Hours outside education required, but no specified minimum	2	3.0	3	5.6
No requirement stated	41	62.1	31	57.3
Total.	66	100.0%	54	100.0%
Mean [a]	18.4 hours		14.2 hours	
Median [a]	18 hours		15 hours	
Range [a]	8-30 hours		6-30 hours	
Q[a]	6 hours		6 hours	

[a] Based on institutions that reported a specified number of hours.

Only 25 percent of the Ed.D. programs in private universities had stated requirements along this line; 46.5 percent of the public institutions specified a minimum number of hours. A similar difference was discernible in relation to the Ph.D. degree. Of the Ph.D. programs in private institutions, only 31.8 percent had such a stated minimum, while 50 percent of the Ph.D. programs in public institutions had such a requirement. The difference may not have reflected a basic philosophic difference in regard to the value of courses outside the field of education as much as it did the uniform tendency of programs to be more structured, or spelled out, in terms of hours in the public universities.

In regard to the Ed.D. degree, only 20 percent of the college-of-education-controlled programs stated a minimum, as compared to 46 percent of the graduate-college-controlled programs. None of the five Ph.D. programs under college-of-education control had a stated minimum. This also may have reflected a difference in curricular structuring more than a fundamental difference of attitude.

Another way to analyze emphases on work taken outside the field is to obtain data relative to majors and minors and cognate work. As indicated in the following analysis, there was naturally a close relationship between institutions with established minimums in regard to specified hours outside the field and the presence of requirements stipulating that another major or minor, in addition to the professional education emphasis, be earned outside the field.

MAJORS AND MINORS

Table 37 does not reflect the wide variety of patterns relative to the statements about majors and minors; it does, however, include the two basic patterns--those programs that stipulated that a related group of courses had to be taken outside the field, as contrasted with those that had no stipulation beyond the accumulation of hours in the field.

TABLE 37.--MAJORS AND MINORS REQUIRED

Requirement	Ed.D. programs		Ph.D. programs	
	Number	Percent	Number	Percent
1	2	3	4	5
Education only. . . .	39	59.1%	28	51.8%
Education plus cognate.	23	34.8	22	40.7
None specified . . .	4	6.1	4	7.5
Total.	66	100.0%	54	100.0%

Since the terms major and minor probably were defined in different ways when translated into hours in each institution, the two main categories in Table 37 formed an adequate basis for further observations about work outside the field.

Of the 25 Ed.D. programs reported in Table 36 as having hours required outside the field of education, only three did not report a requirement that the candidate acquire a cognate major or minor outside the field. These three institutions may not have considered the hours outside the field as constituting a cognate area; the courses may have been broadly elective from many academic fields.

Forty-one Ed.D. programs were described as not requiring a specified minimum number of hours outside the field, but eight of these required a cognate minor or major. This seeming discrepancy probably arose from the fact that these eight institutions did not spell out the cognate requirement in terms of specified minimum hours. All in all, there were 33, or exactly 50 percent, of the Ed.D. programs without any stipulation regarding the accumulation of hours outside the field, either by means of a specified minimum number of hours or a cognate field.

One Ph.D. program was reported as having no specified minimum number of hours outside the field, but a cognate area was required. Conversely, three Ph.D. programs were described as having a specified minimum number of hours required outside the field, but no cognate major or minor had to be earned. These seeming discrepancies were probably attributable to the same facts given in the foregoing explanation of the Ed.D. degree. Altogether, there were 24, or slightly over 44 percent, of the Ph.D. programs without any stipulation regarding the accumulation of hours outside the field either by means of a specified minimum number of hours or a cognate field.

The foregoing analysis indicates that there was some difference between the two degrees regarding cognate work, with the Ph.D. degree having a somewhat greater tendency toward the stipulation of such a requirement. This was further borne out by the fact that among the 41 participating institutions that offered both degrees, five reported that the Ph.D. candidate had to fulfill requirements for a cognate area, while the Ed.D. candidate did not.

The basic difference in these data, however, was between those institutions that required work outside the field and those that did not, regardless of the degrees offered. This difference seemed to exemplify a basic curricular controversy and a divergence of thought between one group of institutions, which perceived doctoral study only in terms of specialization within the field, as contrasted with an opposing group, which made administrative assurances that additional opportunities for general "breadth" accompanied advanced graduate education. The institutions that reported no administrative devices to encourage course work outside the field of education were not assumed to be irrevocably opposed to such an idea and were probably permissive in allowing students, on an elective basis, to choose such courses. Nevertheless, institutions that used prescriptive techniques to assure work outside the field probably considered reliance upon individual student initiative to do so as undependable.

This was not an absolute dichotomy of thought, however. One institution, for instance, that reported no course hours or cognate areas outside the field of education, indicated that the interpersonal and informal relations of the education unit with other university departments were not conducive to an arrangement for interdisciplinary approaches, desirable as they might be. Two other institutions with no requirement for study outside the field mentioned that scheduling problems usually precluded such an arrangement, since many of the other departments did not have courses available when education students could conveniently enroll in them.

Of the Ed.D. programs under graduate-college regulations, 69 percent required a cognate field, as compared to only 13 percent of the programs controlled by the college of education. Perhaps this was a reflection of greater breadth of control exercised by the graduate college.

Two-thirds of the high Ed.D. and Ph.D. degree-producing institutions had no requirements for work outside the field, while only one-half of the low Ed.D. and Ph.D. producing institutions did not.

The public and private institutions differed slightly, with the public universities placing more emphasis on a cognate major and minor. In public institutions, 35.7 percent of the Ed.D. programs had such a stipulation, while only 20 percent of the Ed.D. programs in private institutions included this requirement. In public institutions, 46.9 percent of the Ph.D. programs required cognate work, as compared to 27.2 percent of the Ph.D. programs in private institutions. This difference may have resulted, once again, from the tendency of the public universities to be more prescriptive in regard to curricular requirements, while the private universities tended toward greater flexibility. However, it would be hazardous to assume from these data that private institutions valued cognate work less than the public institutions.

COURSE WORK RESTRICTED TO THE DOCTORATE

According to Table 38, not quite one-half, 46.9 percent, of the institutions reported that there was a specified number of credit hours to be earned in courses virtually limited to doctoral students in education. The median number of these course hours was nine. It was assumed that when this was not a strict requirement, the candidates would automatically enroll in a certain number of courses specifically designed for doctoral-level study. In some institutions, this requirement was administered by the prescription of a set number of courses bearing a certain numerical designation. Such a system identified seminars and courses as "high level" and adapted for advanced graduate students, particularly doctoral candidates.

TABLE 38.--NUMBER OF COURSE HOURS VIRTUALLY LIMITED TO DOCTORAL STUDENTS

Hours 1	Number 2	Percent 3
None	14	17.7%
1- 4	4	5.1
5- 9	12	15.2
10-14	9	11.4
15-19	5	6.3
20-24	4	5.1
25-29	1	1.3
30-34	2	2.5
Not specified	28	35.4
Total.	79	100.0%
Mean[a]	12.3 hours	
Median[a]	9 hours	
Range[a]	0-33 hours	

[a] Based on institutions that reported a specified number of hours. One institution did not answer this question.

According to Table 38, in addition to the 46.9 percent of the institutions with this stipulation specified, another 35.4 percent of the institutions reported the inclusion of courses virtually limited to doctoral students, but did not report any particular set number of hours recommended or required.

Fourteen, or 17.7 percent, of the institutions reported no such arrangement. Evidently, doctoral students in education in these institutions were, for the most part, enrolled in classes along with master's degree candidates and, in some cases, upper-division undergraduate students.

No differences relative to this requirement were noted on the basis of comparisons between types of institutions, sources of administrative regulations, or degrees offered.

It was interesting to note that 5 of the high Ed.D. degree-producing institutions were among the 14 institutions that reported the absence of arrangements for courses virtually limited to doctoral students. It would seem that the greater number of candidates would have facilitated this type of scheduling. Two of the low Ed.D.-producing institutions were among these 14 institutions. Only one of the high Ph.D. producers and two of the low Ph.D. producers were also among these 14. Together, there were over 500 candidates graduated from these 14 institutions. These students apparently carried very little, if any, course work in classes restricted to doctoral enrollment only.

This analysis dealt with one dimension of the way the respondents perceived a doctoral curriculum. In most of the institutions there was evidence that the doctorate was an entity in itself--a degree program, as far as course work was concerned, with certain expectancies that required specifically designed curricular adjustments. In other institutions, this concept of so-called curricular isolation for doctoral students did not prevail to any appreciable extent in course work.

At least two institutions were planning to arrange for more courses limited to doctoral students in education. Montana State University reported that it intended to increase the number of such courses. Washington University (St. Louis) reported that plans were under way to establish a minimum required number of these courses.

CORE COURSES

Another analysis of curricular requirements relating to course work dealt with the core or tool subjects common to doctoral programs in education. This analysis did not include the foreign-language requirement, which is treated separately later in this Chapter.

Among the 80 responding institutions, 22 reported no uniform core requirement common to all of their doctoral students. In the 58 institutions that did prescribe a common core, the median number of courses required of the Ed.D. candidate was four, as compared to three required for the Ph.D. candidate. However, this difference was actually equalized when it is realized that had the foreign-language requirement for the Ph.D. been included in this analysis, the two medians would probably have been the same.

In 6 of the 41 institutions that offered both degrees, there was differentiation between the two in regard to core courses in addition to the foreign-language requirement. Two of these six universities had no core requirements for the Ph.D. degree, but did specify certain tool courses required of all Ed.D. candidates. The other four differentiated between the two degrees on the basis of a course or two required of the one but not the other. All in all, there were no appreciable differences between the core requirements for Ed.D. and Ph.D. programs, notwithstanding the foreign language. In other words, in a majority of the institutions that offered both degrees, the same core was prescribed for both. One of these institutions reported that although its core was the same for both degrees, this was not to be taken to mean that the two programs were identical except for languages. This respondent pointed out that the Ph.D. degree was designed to emphasize research, and the Ed.D. degree was planned specifically for professional competence.

Interestingly enough, in this same regard, another institution reported that a committee reached a stalemate in an effort to produce a report on the Ph.D. degree in education that could have shown how it was differentiated in any major respect from the Ed.D. degree.

A comparative analysis showed no difference between high and low Ed.D. producers. The high Ph.D. producers tended to be more flexible concerning the core than the low Ph.D. producers, the former requiring a median of only one course, and the latter requiring a median of four.

For the Ph.D. and the Ed.D. degrees in private institutions, a median of two core courses was required as compared to a median of four courses for each degree in public institutions. Here again, the private universities tended to show a somewhat less prescriptive attitude toward the organization of doctoral study than the public institutions.

Ed.D. programs under graduate-college regulations required a median of four core courses, while college-of-education-administered Ed.D. programs prescribed a median of only one core subject. A difference was also noted in an analysis of the programs with no core prescription. Only 18 percent of the graduate-college-controlled Ed.D. programs were without a core requirement, as compared to 30 percent of the college-of-education programs that had no core requirement.

It is also worth noting the range in prescription prevalent among the institutions with a core requirement. For instance, eight Ed.D. programs had only one course that was generally required of all candidates. At the other extreme, one institution reported as many as 11 courses that were required of all Ed.D. candidates. The range in number of courses for the Ph.D. degree was almost as wide, from one to ten courses.

Of the 22 institutions that reported the absence of core requirements, two institutions that offered the Ph.D. degree only--the University of Chicago and the University of Minnesota--reported that there were courses in which virtually every candidate was enrolled, despite the fact that these were not actually required.

Also among the 22 institutions without core requirements were Auburn University, the University of Georgia, Ohio State University, and the University of Virginia--all of which reported plans under way for the addition of a core requirement to their programs.

The major question, therefore, did not seem to be whether or not to have a core, nor was it one of deciding whether a core requirement was more necessary for the Ed.D. than for the Ph.D. degree. The primary concern was rather a matter of extent of prescription, with some institutions, particularly the private, tending toward a limited core program, while others required all candidates to enroll in many prescribed courses. Perhaps in the latter group of institutions there was less programming to meet individual needs. This element of individual patterning has often been associated with the Ed.D. degree as one of its distinguishing characteristics.

Courses Prescribed

As shown in Table 39, the most frequently required area in which core courses were offered was educational measurement and research. In 61.3 percent of the institutions in the study, one or more measurement and research courses were required. Second in rank was educational statistics, followed in third place by educational psychology. Rather surprisingly, only one-third of the institutions included philosophy of education in their cores, an area traditionally associated with doctoral study, especially for the Ph.D. degree.

Table 39 includes only those course areas in which core requirements were found in five or more institutions.

TABLE 39.--CORE COURSES REQUIRED

Rank	Course area[a]	Number of institutions requiring at least one course in each area[b]	Percent
1	2	3	4
1	Educational measurement and research.	49	61.3%
2	Educational statistics . . .	38	47.5
3	Educational psychology. .	29	36.3
4	Philosophy of education. .	27	33.8
5	Curriculum and instruction	17	21.3
6	Educational sociology. . .	15	18.8
7	History of education. . . .	13	16.3
8	Administration and supervision	7	8.8
9.5	Comparative education . .	6	7.5
9.5	History and philosophy of education (combined) .	6	7.5
11	Guidance.	5	6.3

[a] Among the various core requirements reported, there were 75 different course titles which fell largely into the above areas. When course titles did not readily indicate course content, college catalogs from these institutions were consulted. More than one course area was given in some institutions, accounting for the absence of column totals.

[b] In several institutions more than one course was required in some of the areas listed in the above table. Many institutions, for example, required two or three different measurement and research courses in their core. The above table reflects only one course per institution to show the actual rank order of the various areas contained in the core.

FOREIGN-LANGUAGE REQUIREMENT

Related to the foregoing analysis, and in actuality a part of it, is the foreign-language requirement. Because of the varying patterns found among institutions relative to this requirement, it was treated separately.

Ed.D. Programs

As was expected, most Ed.D. programs did not require a foreign language. This was true in 48 of the 66 Ed.D. programs in the study, as shown in Table 40. Although the other 18 programs had some language stipulation for the Ed.D. degree, none required a reading competency in two foreign languages without the possibility of waiving one of these. Technically, the University of Texas required two foreign languages of the Ed.D. candidate, but reported that one of the language requirements could possibly be waived in individual cases, with advanced statistics replacing the one language. Four other institutions reported that one foreign language was required of Ed.D. candidates, without waiver privileges. Seven Ed.D. programs were reported as having the set requirement of one foreign language with the possibility that this requirement could be waived.

TABLE 40.--FOREIGN-LANGUAGE REQUIREMENT

Requirement	Ed.D. programs		Ph.D. programs	
	Number	Percent	Number	Percent
1	2	3	4	5
No language requirement . . .	48	72.7%	. . .	. . .
Reading competency in one foreign language (no waiver)	4	6.1	6	11.1%
Reading competency in one foreign language (waiver possible)	7	10.6	. . .	. . .
Reading competency in two foreign languages (no waiver)	. . .	. . .	32	59.3
Reading competency in two foreign languages (one may be waived)	1	1.5	14	25.9
Depends on candidate's program	6	9.1	2	3.7
Total.	66	100.0%	54	100.0%

Six schools reported that the foreign-language requirement for the Ed.D. degree depended on the candidate's individual program. For instance, Harvard University, Northwestern University, North Texas State College, and George Washington University, all reported that the requirement was an individual matter, often to be determined in light of specific needs during preparation of the dissertation. At Temple University, the Ed.D. candidate was not required to take a language; however, he could take one or two foreign languages. If he took two, his total-hour requirement of 68 was reduced on advisement to 60; and if he elected to take one foreign language, his hour requirement was reduced to 64.

Of the five Ed.D. programs in which at least one foreign language was irrevocably required of all candidates, only one was under college-of-education regulations; the other four were graduate-college controlled. Three of the five were in low Ed.D.-producing institutions.

Of the 18 Ed.D. programs with one form of foreign-language requirement or another, 5 were in private institutions, and the remainder were in publicly-controlled universities. In other words, 21 percent of the Ed.D. programs in private institutions had some form of stated foreign-language requirement, while 30 percent of the programs in public institutions had such a policy.

One institution added the following comment to its report on the Ed.D. foreign-language requirement:

> We have attempted to eliminate the language requirement for the Ed.D. but without success. We have faculty members who cling tenaciously to the theory of "Formal Discipline" despite research findings. After all, it is an engagingly simple explanation of a very complex phenomenon--so why worry about evidence?

Ph.D. Programs

Thirty-two, or 59.3 percent, of the Ph.D. programs retained the requirement of two foreign languages, very often French and German, with no substitutions permitted except a language other than French or German.

At the other extreme, two institutions--the University of Connecticut and the University of Denver--reported that any foreign-language requirement for the Ph.D. degree depended entirely on the candidate's program.

The University of Connecticut reported that two skills were required to support "the central program leading to top-level competence in the special field." The two skills were foreign languages or related areas of preparation (e.g., state and local government, social psychology, economics, developmental psychology, community analysis). These two required skills were determined by the nature of the field, the objectives of the student, the nature of the thesis, and the contribution these skills made to the student as a specialist in his field. The University of Connecticut reported in addition that:

> Requirements for Ph.D. students in education have ranged from two foreign languages to two related areas of learning other than foreign languages. Actually, the Executive Committee on occasion has denied a Ph.D. candidate the right to use a foreign language as a skill since it clearly did not represent a necessary tool to his research or to the achievement of high-level competence in his field of specialization.

The Ph.D. degree at the University of Denver, offered only in the combined fields of education and psychology, required that the candidate must show evidence of competency in any two of the following areas, depending on individual needs: French, German, or some other modern language; individual diagnostic testing; factor analysis; analysis of variance; and nonparemetric statistics. The University of Denver reported that it was not uncommon for Ph.D. candidates to choose two skills other than languages from the foregoing list. No language requirement obtained in the Ed.D. program at the University of Denver.

In addition to these 2 institutions, 20 others reported deviations from an inflexible requirement of two foreign languages. Six institutions required a reading competency in only one foreign language for the Ph.D. degree; 14 institutions indicated that, although two languages were technically required, it was possible to waive the requirement for one of them.

Of the total of 22 Ph.D. programs that departed from the standard requirement of two languages, all 5 Ph.D. programs controlled by the college of education were included. Of these 22 institutions with more flexible language requirements, 12 were private institutions and 10 were public universities. Stated differently, 54.5 percent of the Ph.D. programs in private institutions offered some degree of latitude to the candidate regarding the fulfillment of requirements for the degree, as compared to only 31.2 percent of the programs in public institutions which did so.

Twelve of these 22 so-called permissive language requirements were found among the 18 high Ph.D. degree-producing institutions, while only three were found in the 18 low Ph.D. degree-producing institutions.

The analysis of the Ph.D. language requirements, therefore, seemed to indicate that the more flexible patterns were more often found in private universities and among the high producers. There was also some indication that college-of-education regulations tended to be more permissive in this regard for both the Ed.D. and Ph.D. degrees.

The University of Chicago indicated that the foreign-language policy for the Ph.D. degree stipulated that a statement had to come from the faculty and thesis advisers that the candidate was actually using the language in his thesis work or his special field work. This seemed to be representative of many remarks on several questionnaires, which indicated a definite attempt toward making the language requirement for the Ph.D. degree a functional part of the curriculum, rather than a traditional hurdle which has been so often criticized.

Languages Offered

The following list comprises the languages reported as being available to Ed.D. and Ph.D. candidates in those institutions requiring a foreign language:

Languages offered	Number of institutions
French	37
German	37
Spanish	16
Russian	10
Italian	6
Swedish	2
Chinese	1
Hindi	1
Hebrew	1
Danish	1

Languages offered (continued)	Number of institutions (continued)
English (for foreign students)	1
Norwegian	1
Latin	1
Any modern language	17
Any Germanic language	1
Any Romance language	1

Eleven institutions that offered the Ph.D. degree reported that the two languages required must be French and German. Seven other institutions with Ph.D. programs reported that one of the two languages had to be either French or German. These 18 institutions were, therefore, characterized as the most formal and traditional in their language requirements.

Seventeen institutions reported that any approved language that the university staff could examine would satisfy the Ed.D. or Ph.D. language requirement. Seven institutions listed three languages from which the candidate should choose, usually French, German, and Spanish. Four institutions listed four possible languages from which to choose, two institutions listed five languages, one listed six languages, and one listed seven.

Substitutions Permitted

The following list includes the substitutions permitted in place of a second foreign language for Ph.D. candidates or in place of the one language for Ed.D. candidates:

Substitution	Number of institutions
Statistics	13
Educational research	2
Advanced statistics	1
High-speed computing	1
School law	1
"Broadening fields"	1
"Related tool field"	1
"An integrated supplementary program of 9 semester hours"	1
"A collateral field of 10 hours"	1
"Foreign residence study for one year"	1

Not included in the above list were other languages. This type of substitution was, however, of a different nature than the above waivers.

It is interesting to note that 13 institutions considered statistics as a waiver for a foreign language, while 38 other institutions, as shown in Table 39, required a statistics course in the core as a competency to be expected of all doctoral candidates. Evidently, these latter 38 institutions did not consider statistics as merely an alternative for some other core subject.

The University of California at Berkeley reported an interesting arrangement for alternatives in the language requirement. At this institution, the candidate was permitted to demonstrate a reasonably accurate reading knowledge of two foreign languages, one of which was either French or German, and the other usually Russian or Spanish. However, as an alternative, the candidate could demonstrate an exceptionally thorough reading knowledge of either French or German, together with an adequate knowledge of the grammatical structure of the language.

A similar pattern was reported by Ohio State University. Here the candidate could choose to read with dictionary assistance in two languages or attempt a thorough reading of one language without assistance.

GRADE-POINT AVERAGE IN DOCTORAL WORK

Approximately three-fourths of the institutions reported that the grade-point average in doctoral course work had to be of "B" quality or above. Eleven institutions specifically stated that "B+" work was necessary, and one institution required an "A-" average. On the other hand, one institution reported that a "B-" average would suffice, and two institutions permitted "C+" averages. Fifteen institutions, or nearly 20 percent of the participants, reported that grade-point averages did not apply to doctoral course work.

Because of the unitary nature of the data relative to this requirement, no comparisons on any basis were made.

Among the 15 institutions that reported deviations from the standard grade-point system, several interesting practices were reported. For instance, the University of Mississippi's system of retention was based on the doctoral examination: An examination that was failed could be retaken; a second failure meant termination of candidacy. Similar systems were in operation at the University of Chicago, the University of Virginia, and George Washington University.

At Yeshiva University and the University of North Carolina, grades at the doctoral level were on a Pass-Fail basis only. At Duke University, the evaluative system utilized a scale of "E," "G," "S," and "F" rather than the customary "A," "B," "C" series. At Duke, the first year of work toward a doctorate had to show a reasonable number of "G's."

In 500-series courses (for graduate students only) at Pennsylvania State University, the following marks were used: "H" (honors), "P" (passed), and "F" (failed).

At the University of Connecticut, "K" equalled honors quality work, "M" represented good quality, "T" signified that credit in the course was justified but below quality of work expected on the average, and "U" meant that the work was unacceptable and no credit was given. The doctoral program required 60 percent of "M" quality work for successful completion.

EXAMINATION PROGRAMMING

The customary major examinations--other than entrance examinations--that characterized doctoral study differed very little in the two degree programs. Examinations in this analysis refer only to major assessments of the candidate at critical stages in the program and do not include course-end examinations.

Entrance Examinations

As indicated in Chapter IV on admission requirements, the entrance examination as a first test of a series of periodic doctoral examination was more often found in Ed.D. than Ph.D. programs. In Table 41, this is also illustrated.

Candidacy Examination

As shown in Table 41, approximately one-fifth of the Ed.D. and Ph.D. programs followed up entrance diagnostic testing with a so-called intermediate examination. This was generally given before the completion of the first year of graduate work beyond the master's degree, and always before and usually in addition to the examination used for determination of candidacy. In fact, five institutions reported that this evaluation came soon after the student's first semester following admission. The intermediate examination, as indicated in Table 41, was in some institutions of a written nature only, in others oral only, and in a few institutions was both oral and written.

TABLE 41.--EXAMINATION PROGRAMMING

Examination[a]	Ed.D. programs		Ph.D. programs	
	Number	Percent	Number	Percent
1	2	3	4	5
Admissions or entrance examinations	56	84.8%	39	72.2%
Intermediate examination:	13	19.7	11	20.4
Written only . . .	5		4	
Oral only.	1		2	
Written and oral	3		3	
Written or oral or both	4		2	
Candidacy examination:	66	100.0%	54	100.0%
Written only . . .	23		28	
Oral only.	3		4	
Written and oral	35		16	
Written or oral or both	3		3	
Unspecified . . .	2		3	
Final written examination .	20	30.3	16	29.6
Final oral examination .	63	95.5	52	96.3

[a] More than one type of examination was administered in every institution, accounting for absence of column totals.

Some form of candidacy examination was administered as a part of every program in all participating institutions. This examination for the Ed.D. degree was most frequently oral and written. For the Ph.D. degree, it was most frequently written only. The term candidacy examination was used in this analysis to convey the purpose for which the examination was given. Actually, this terminology was used in very few universities. The examination was referred to as the "preliminary examination" in 29 institutions, as the "qualifying examination" in 24 institutions, and as the "comprehensive examination" in 13 institutions. Other names for it included "general examination," "preliminary-comprehensive," "matriculation examination," "interview examination," and "major area examination."

Not shown in Table 41 were language examinations, which, in almost every institution, had to be passed prior to or as a part of the so-called candidacy examination.

The examination that immediately preceded formal admission to candidacy came at various intervals in the program, depending on the institution. Not all institutions in the study reported the actual time when candidacy was established. The following list, however, gives an overview of the time requirements that had to be met before candidacy could be attained (numbers in parentheses after each entry indicate the number of institutions that reported each practice):

1. After 8 semester hours (1)
2. After 12 semester hours (3)
3. After 16 semester hours (5)
4. After 18 semester hours (1)
5. After 24 semester hours (1)
6. After 30 semester hours (4)
7. After first year of doctoral study (6)
8. Within 15 months after matriculation (1)
9. After one-half of course work (1)
10. After fourth or fifth quarter (1)
11. After two-thirds of course work (1)
12. After three-fourths of course work (1)
13. After 80 percent of course work (1)
14. After 50 semester hours (1)
15. After 60 semester hours (3)
16. After second year of doctoral study (9)
17. After dissertation topic is approved (1)
18. After completion of course work (24).

Obviously, some doctoral students became identified as candidates for the degree almost at the time they arrived "on the scene" to study for the degree; on the other hand, doctoral students in more than one-fourth of the institutions were apparently at the dissertation stage before they could consider themselves as qualified candidates.

Final Examinations

Twenty Ed.D. programs and 16 Ph.D. programs included in their examination schedules a final written examination. Eight institutions reported that, along with this written final, an oral examination was given that was separate from, and in addition to, the final oral devoted to the defense of the dissertation.

Three Ed.D. and two Ph.D. programs were reported as not requiring the final oral examination usually devoted to the dissertation. Among these was the Ed.D. program at the University of Buffalo. In this program, each doctoral candidate, instead of submitting to an oral, was expected to make a formal public presentation where he described his doctoral study and led in a discussion of it. The presentation was usually attended by doctoral candidates, other graduate students, and members of the faculty.

Of the institutions that offered both degrees, eight (19.5 percent) indicated that there was a difference between the programming of examinations for the Ed.D. and the Ph.D. degrees. In almost every one of these eight institutions, a major difference existed in the time that candidacy examinations could be taken; Ed.D. programs in these cases permitting earlier candidacy than Ph.D. programs. Two institutions indicated that the written phase of the candidacy examination was mandatory for the Ed.D. candidate, but could be waived for the Ph.D. candidate on the basis of course work and entrance examinations. Three other institutions reported that a written final examination was mandatory for the Ed.D. candidate, but could be waived for the Ph.D. candidate at the discretion of his committee. At least in these latter institutions, the Ed.D. degree was somewhat less flexible than the Ph.D. degree.

In summary, the usual pattern followed in scheduling examinations for both degrees was as follows: (a) written admissions examination (diagnostic), (b) written candidacy examination, (c) oral candidacy examination, and (d) final oral examination over thesis.

Even though the above components were included in the normative pattern, it is worth noting that a major difference in programming centered on the time application for candidacy should be made. Also of note is the fact that in many institutions the candidate had no oral-examination experiences before the final defense of his dissertation, whereas in one institution candidates were engaged in at least four oral-examination or formal group-conference situations during pursuit of the degree.

THE DISSERTATION

As shown in Table 42, 96.3 percent of the Ph.D. programs were described as permitting a formal dissertation as the only acceptable terminal research project. Two institutions reported that some deviation was permitted. In both of these instances, the deviation consisted of permission to carry on a co-operative study, presumably within the confines of a typical dissertation design.

Over three-fourths of the institutions with Ed.D. programs accepted only a formal dissertation, or thesis, to fulfill the research requirement. Of the 14 Ed.D. programs that permitted some choice in the type of research conducted, eight were controlled by the college of education, three by the graduate college, and the remaining three were under the regulations of the dual arrangement. The various deviations from the standard dissertation permitted in the 14 Ed.D. programs were research essays, field-study reports, and joint or co-operative studies. There was no difference relative to this requirement on the basis of production.

In the private institutions, 29 percent of the Ed.D. programs permitted deviations from the formal

TABLE 42.--NATURE OF TERMINAL RESEARCH PROJECT

Type of project	Ed.D. programs		Ph.D. programs	
	Number	Percent	Number	Percent
1	2	3	4	5
Research paper (or essay) only	1	1.5%	...	...
Formal dissertation (thesis) only . .	52	78.8	52	96.3%
Field-study report only	1	1.5	...	...
Joint or co-operative study only	...	...	...	...
Choice of essay, thesis, field-study report, or co-operative study	1	1.5	...	...
Choice of thesis or field-study report	8	12.2	...	...
Choice of essay or field-study report	1	1.5	...	...
Choice of thesis, field-study report, or co-operative study	1	1.5	...	...
Choice of thesis or co-operative study	1	1.5	2	3.7
Total.	66	100.0%	54	100.0%

dissertation requirement, while only 17 percent of the publicly controlled Ed.D. programs permitted such deviations. At Harvard University, latitude in selecting a research project other than a dissertation prevailed in the areas of guidance and administration only. All other doctoral areas of concentration at Harvard required a dissertation.

At Cornell University, for the Ed.D. degree, both a dissertation and a field-study report were required.

The data provided through the questionnaire were inadequate in indicating what each institution interpreted the dissertation to mean. It was recognized that considerable variance existed among the institutions concerning the acceptable nature of a doctoral thesis or dissertation. Some institutions probably accepted a status study as fulfilling the so-called dissertation requirement, while others tended to disqualify any form of research other than experimental.

Three institutions provided information that helped gain some insight into the way in which the dissertation was perceived. The University of North Dakota indicated that there has been little or no distinction made in the research requirement for the two degrees, but plans were underway to differentiate between the two by allowing Ed.D. candidates to do "applied research" rather than expecting them to "produce new information." The University of Utah reported that emphasis in that institution's Ed.D. program was on solving "practical school problems." The Ed.D. research requirement was fulfilled at the University of Virginia by a professional project planned and carried out by the candidate to show competence in "practical affairs."

From data available, it was evident that, as in the past, the Ed.D. program continued to be more flexible than the Ph.D. program relative to the terminal research project. Data in this study, however, did not indicate that there was wide-spread acceptance of the Ed.D. research project as something radically different from the traditional Ph.D. dissertation. The respondents were requested to indicate any prevailing, noteworthy differences along this line, an instruction which surprisingly few institutions found necessary to follow.

DOCTORAL COMMITTEES

The median number of faculty members assigned to assist the candidate as a research committee was five, two more than the median number required as a minimum by departmental policy; the range was from three to seven members. In only two institutions, departmental policy required as many as six faculty members on the research or thesis committee.

Only two institutions reported differences in the committee composition for the two degrees. At the University of California at Berkeley, three faculty members usually served on the Ph.D. candidate's committee; five served on the Ed.D. candidate's committee. At Teachers College of Columbia University, five faculty members (two were graduate-school consultants) served on the Ph.D. candidate's committee, while three served on the Ed.D.-research committees.

The median and modal number of faculty members on the final orals committee was also five; the range was from zero, in institutions not requiring a final orals, to 12 members. Only one institution, Teachers College of Columbia University, reported any difference between the two degrees; five or six faculty members usually served on the Ph.D. candidate's final oral examination, while only four members constituted the orals committee for the Ed.D. candidate.

Of the faculty members on the final orals committee, the median number from outside the education unit was one. Fourteen institutions reported that no member from outside the department was asked to sit in on the orals. Twenty-four institutions reported that two faculty members from outside the department usually served on the orals committee, and three institutions reported that more than three members of the orals committee were noneducation faculty.

Four institutions that offered both degrees reported differences regarding outside members on the orals. Three of these institutions indicated that no outside faculty members on the final orals committee were present during Ed.D. examinations, but at least one outside faculty member was present on the Ph.D. candidates' orals committee. The other institution reported the same in regard to the Ed.D. orals, but stated that at least two outside members served on the Ph.D. orals committee.

When outside faculty members were used on the orals committee at the University of Houston, the chairmanship remained with the College of Education. At the University of Denver, a faculty member from outside the School of Education always served as the chairman.

Five institutions reported that the oral examination was open to the public. Included in this group were the University of Florida, George Washington University, the University of Nebraska, Pennsylvania State University, and the University of Wyoming. Stanford University reported the practice of inviting doctoral candidates who had advanced to candidacy to observe the oral examinations of their colleagues.

MISCELLANEOUS CURRICULAR REQUIREMENTS

Summer School

The median number of semester hours doctoral students could earn as a maximum during summer school in the 80 participating institutions was 10, with the range from 6 to 20. No differences were observed between private and public institutions, the two degrees, the level of production, or the types of administrative control. Any differences that might have emerged between Ed.D. programs under the two major types of administrative control would not have been basically attributable to the college of education or the graduate college alone since, in all probability, maximum credit-hour limits set for summer school were a matter of all-university policy. The median of 10 semester hours as a limit during summer school was five less than the median permitted during the regular academic year--the range in credit hours permitted during a regular term was from 12 to 18 hours per semester.

The major difference in these data concerning summer school was between those institutions that evidently placed heavy emphasis on candidates' taking a great many summer courses and those institutions that limited them to as few as six semester hours during the summer. This difference was no doubt related to the residence requirements of the institutions, some of which permitted all residency to be fulfilled through attendance in the summertime. An opposite viewpoint was expressed in the Bulletin of the University of California at Berkeley, Graduate Division, on page 41 of the June 1958 edition:

> Except by special arrangement, work for the Ph.D. degree can ordinarily be pursued only during regular sessions.... In planning a program for a higher degree candidates must bear in mind that the members of the regular staff are not on duty in the summer months. Admission to candidacy does not constitute a claim upon the vacation time of members of the faculty for direction of theses and dissertations.

The median number of weeks that summer school was in session in the participating institutions was 10, with a range from 6 to 14 weeks. The median for public institutions was 10, one week longer than the median for private institutions. The median for high- and low-producing institutions was also 10; however, the three highest producers of Ed.D. graduates and the three highest Ph.D.-degree producers had summer sessions lasting longer than 12 weeks, a factor that probably contributed to higher production.

Extension Hours

Of the 66 Ed.D. programs in the study, 45.5 percent permitted credit hours earned through extension work to apply toward the doctorate; 48.1 percent of the 54 Ph.D. programs permitted such a practice. There was no difference between private and public institutions in this analysis.

Only 38.5 percent of the Ed.D. programs under graduate-college control would honor extension hours as applying toward the doctorate, as compared to 55 percent of the programs under college-of-education regulations.

The high-producing institutions, like the graduate college, were somewhat more stringent in this requirement. Of the high Ph.D. producers, 44 percent would not permit the use of extension credits, as compared to only 27 percent of the low producers. Of the high Ed.D. producers, 33 percent would not accept extension credits, while only 22 percent of the low producers had regulations prohibiting the use of extension work during doctoral study.

In those institutions that did permit the application of extension credits toward degree requirements, the candidate was normally limited to a maximum of three hours during any one semester and to a total maximum of 9 semester hours. Two institutions, however, indicated that as many as 30 semester hours of extension work could apply toward the doctorate.

Credit-Hour Limitations on Employed Candidates

All but 11 institutions had specified credit-hour limitations for candidates employed full time during the regular academic year. The median was five semester hours during any one semester in the 69 institutions with such specifications.

Forty-nine institutions specified a median of six semester hours as a limitation during any one semester for candidates employed on a three-fourths-time basis. Candidates employed on a half-time basis were limited to a median of 10 semester hours each term in 54 institutions with such a specification. In the 48 institutions with specifications for candidates employed on a one-fourth time basis, the median number of credit hours was 12.

SUMMARY

Institutions were characterized more by diversity than similarity in curricular requirements. However, there were requirements that most programs possessed in one form or another, among which were the terminal research project, a "B" average in course work for the doctorate, tool subjects or a common core, and foreign languages for the Ph.D. degree--but not for the Ed.D. degree.

At the same time, there was an extremely wide range in number of total course hours required--and some institutions did not equate course work in terms of hours at all. Some institutions accepted a set number of hours on transfer; others did not state a policy in this regard; still others accepted no hours beyond the master's degree on transfer. Some institutions insisted on an academic year of full-time residence; others accepted the fulfillment of residency through any combination of day, evening, Saturday, or summer classes. Some stated the maximum time expected for completion of the doctorate; others did not. Of those that did, some said three years, one institution said 12. Core requirements ranged from none to as many as 10 or 11 prescribed courses. One-half of the institutions insisted on some course work or cognate area outside the field of education; the other half had no such requirement. Some Ed.D. programs required a foreign language; a few Ph.D. programs did not! In brief, doctoral programs in education differed markedly in many curricular respects.

The Ed.D. and Ph.D. programs resembled each other in curricular arrangements far more than they differed. Two main differences between the two degrees were the traditional ones: (a) usually no foreign-language requirement for the Ed.D. degree, but almost always at least one language required for the Ph.D. degree; (b) more flexibility in the Ed.D. terminal research project. Another difference, but not a marked one, was the tendency of the Ph.D. program to carry stipulations that the candidate obtain some work outside the field of education. The Ph.D. degree also appeared to be less permissive on residence requirements. The Ed.D. degree required more course hours than the Ph.D. degree, and more Ed.D. programs had structured this requirement in terms of minimum hours. Some difference was noted between the two degrees in a few institutions in regard to examination programming.

Public institutions tended to be more demanding in terms of total hours required, residence requirements, and hours outside the field. They were also more structured in regard to requiring a common core and prescribing the number of courses to be included in the core. The public institutions were less flexible in permitting deviations from the commonly accepted foreign-language requirement or the standard dissertation expected of the Ed.D. candidate. Public institutions tended to have slightly longer summer schools. Private institutions perceived the doctoral program as consuming less time; at least the recommended maximum period of time was shorter. The only areas in which private institutions were not as flexible or permissive as public institutions were in reference to hours earned at the university from which the degree was to be granted and hours accepted on transfer. The private institutions insisted on a greater proportion of course hours to be earned at the "home" institution; consequently, they accepted fewer hours on transfer.

Ed.D. programs controlled by the graduate college in the main were more inflexible and demanding than college-of-education-controlled programs. This was true in regard to residence requirements, prescribed number of total hours, hours earned in education courses, and hours earned outside the field. Graduate-college programs were more likely to prescribe a core of courses, and when both did so, the graduate-college core usually contained a greater number of courses. Graduate-college administrations were less likely to accept course hours earned through extension work, less flexible in regard to deviations from the formal type of dissertation, and more demanding of Ed.D. candidates in the area of foreign language. The only areas in which college-of-education requirements seemed less permissive than those of the graduate college were in the related areas of transferable hours and the proportion of course work to be earned at the degree-granting institution. College-of-education programs insisted on more hours to be earned at the "home" institution and, consequently, accepted fewer hours on transfer than graduate-college programs did.

The high producers for each degree differed in some curricular respects, which may have had direct effects on the production factor. For instance, they specified a shorter maximum of time in which to complete the degree; they were less prone to require a cognate area; and they were more permissive in their foreign-language requirements. Interestingly enough, the high Ph.D. producers were also less strict in their residence requirements. On the other hand, the low producers for each degree insisted on fewer hours to be earned at the degree-granting institution and, consequently, were more permissive about accepting transferred hours. The low producers were also more permissive about accepting hours earned through extension work. High producers tended to require a larger core of courses common to all degrees; and surprisingly, the high producers tended to offer fewer courses virtually limited to doctoral candidates in education.

Chapter VI

RELATED CONDITIONS

Included in this Chapter are analyses of several of the important conditions, such as personal finances and housing, that relate to the advanced graduate student, including many of the same conditions treated in the graduate phase of the study; however, in the institutional phase, they are described from the viewpoint of the administrative officer in charge of the education unit.

RECRUITMENT

The questionnaire included an inquiry into the types of recruitment practices most frequently employed by the participating institutions. An open-end question was used to determine whether the administrators were "recruitment-conscious" and to learn what was uppermost in their thinking concerning the recruitment process. The results of this inquiry are reported in Table 43.

TABLE 43.--RECRUITING PRACTICES

Practices[a]	Number of institutions	Percent of 81
1	2	3
Faculty and other personal contacts	27	33.3%
Publications	24	29.6
Scholarships, fellowships, assistantships.	17	20.9
Personal letters	12	14.8
Reliance on reputation and alumni.	8	7.8
Master's program	7	8.6
Summer session	5	6.2
Co-operation with other institutions	4	4.9
News stories.	3	3.7
School study council	1	1.2

[a] More than one practice was reported by several institutions, accounting for the absence of column totals.

One institution reported that no practices were employed, since ten prospective students were turned down for every one who was accepted. On the other hand, another institution reported that the absence of a formal recruitment program was one of its greatest weaknesses.

Between these two extremes were various practices employed to encourage able persons to pursue doctoral study in education. Some institutions utilized several practices as a part of their program; some relied on one or two methods only; and some simply had no recruitment techniques to report.

Contacts

The most frequently mentioned recruiting practice was the reliance upon personal contacts by faculty members to identify prospective doctoral students. These contacts were reported as being both on-campus and off-campus associations, which faculty members were encouraged to foster for recruitment purposes. Among the contact opportunities mentioned were public schools where faculty members served as consultants, extension division classes, professional organizations, and educational conferences. The master's program and summer school provided additional opportunities for faculty contacts.

At Texas Technological College, a series of discussions was held during the summer session, in which staff members of the Department of Education met and conferred with resident and nonresident students aspiring to be doctoral candidates.

Publications

The second most frequently employed recruitment device reported was the use of publications (graduate bulletins, catalogs, pamphlets). Twenty-four institutions felt this was an important aspect of their recruitment program.

The Pennsylvania State University Graduate School and the School of Education sent a general circular on financial aid to (a) academic deans of all Pennsylvania colleges; (b) deans of all graduate schools; (c) academic deans of colleges of arts and sciences of most universities; and (d) academic deans of all colleges in Ohio, New York, New Jersey, Delaware, Maryland, West Virginia, and Virginia.

The University of Tennessee reported the distribution of a brochure entitled Careers in College Teaching in the Field of Education. This brochure detailed the rewards of, and preparation necessary for, careers in teacher education.

At the University of Alabama, news stories were developed and sent to newspapers in the state reviewing dissertations conducted during the pursuit of doctoral degrees in education. The university stated that it was hoped that such public information would be of interest to students wishing to undertake work for the degree.

St. John's University and Yeshiva University also mentioned their use of press releases as media for disseminating information about opportunities in doctoral study at their universities. In addition, Yeshiva reported the use of radio spot announcements for the same purpose.

Assistantships

A representative statement about financial aid as a recruitment feature was made by one respondent, who stated:

> We send announcements of our program, our graduate assistantships, and our fellowships to selected individuals. We feel that this provides us with a better type of doctoral student than a high pressure recruiting program.

Letters

Twelve institutions reported that letters of invitation were periodically sent to prospective doctoral students. Rutgers University mentioned that its college teaching program was interpreted through periodic personal communications to college presidents and deans.

Reputation and Alumni

Eight institutions reported reliance on their reputations and the effects of alumni as means of obtaining doctoral students. One administrator added that, in his opinion, "word of mouth" was the best form of recruitment.

Teachers College of Columbia University instituted a recruitment program in 1957 with the responsibility for its development assigned to a co-ordinator. Initial attention was directed to alumni living in 11 of the Far Western states. Letters were sent to these alumni, asking them to nominate two or three people who showed potential for future educational leadership and who should be recommended for study at Teachers College.

There were 512 nominations from 275 alumni in the initial appeal. Correspondence was carried on with the nominees, and the co-ordinator of the recruitment program interviewed a number of them during a trip to the West Coast, from February through April 1958. Fourteen of the nominees had enrolled by the end of 1958, and several more had indicated a definite interest in attending Teachers College within the next few years.

One administrator reported that he felt that the best recruitment program was a good sound educational program with high standards.

Master's Program

Seven institutions mentioned the practice of recruiting doctoral students from among enrollees working toward the master's degree, and five institutions reported the specific use of summer school for the same purpose.

The University of Michigan reported a policy of inviting students who completed the requirements for the master's degree with an "A" average to a conference, at which time each student's future educational plans were discussed.

Co-operation with Other Institutions

Four institutions reported reliance upon visits to other campuses and co-operative relationships with other colleges and universities as methods for promoting doctoral study. The University of Maryland and the University of Virginia reported reliance upon faculty contacts in neighboring institutions as a means of identifying prospective doctoral candidates.

Most notable among the co-operative arrangements was Indiana University's highly organized relationship with three in-state and six out-of-state institutions. Prospective doctoral candidates in these institutions were brought to Indiana University's attention and permitted, if admitted as doctoral candidates, to take part or all of their work for the sixth year in the co-operating institutions. The candidates then transferred to Indiana University to complete the remainder of their programs. Purdue University engaged in a similar joint venture with Ball State Teachers College. Both these programs have received wide publicity.

Number of Practices

Twenty-four institutions reported no recruitment practices, very often specifying that they had no program--formal or informal. Interestingly enough, 8 of the 18 high Ed.D. producers were among these 24. However, the five highest-producing institutions reported programs, some of which were the most extensive and most formalized; these included Teachers College of Columbia University, New York University, Indiana University, Stanford University, and Harvard University. Actually, there was little difference in this respect between the high and low producers for either degree.

Of the private institutions in the study, 33 percent reported no recruitment programs, as compared to 47 percent of the public institutions. To what extent recruitment influenced production, this study, of course, did not determine. Yet, it is worth noting that some of the very highest producers did report extensive recruitment activity and that private institutions in general, which graduated more candidates than public institutions, tended to be more active in recruitment.

Of all the institutions that reported recruitment practices, 24 mentioned only one practice, while one institution reported as many as six different practices.

FINANCE

The following analyses deal with major financial considerations that usually impinge upon doctoral study.

Tuition

As shown in Table 44, the median total tuition, including regular fees, per academic year was $750 in private institutions, $180 for in-state students in public institutions, and $400 for out-of-state students. Seven of the 51 public institutions reported that there was no difference in tuition costs for in-state and out-of-state students studying at the graduate level. High tuition alone set up no discernible barrier to enrollment, since many of the highest producers were also the private institutions with the highest tuition charges.

TABLE 44.--TUITION PER ACADEMIC YEAR FOR FULL-TIME GRADUATE ENROLLMENT

	Private institutions		Public institutions			
			In-state students		Out-of-state students	
Tuition[a]	Number	Percent	Number	Percent	Number	Percent
1	2	3	4	5	6	7
$ 1- 99	...	...	2	3.9%	...	...
100- 199	...	...	24	47.2	4	7.8%
200- 299	...	...	19	37.3	12	23.6
300- 399	1	3.5%	4	7.8	7	13.8
400- 499	2	6.9	1	1.9	17	33.3
500- 599	3	10.3	...	...	5	9.8
600- 699	6	20.8	1	1.9	5	9.8
700- 799	5	17.2	...	...	1	1.9
800- 899	5	17.2	...	...	...	...
900- 999	3	10.3	...	...	...	...
1,000-1,099	4	13.8	...	...	...	...
Total	29	100.0%	51	100.0%	51	100.0%
Mean	$736		$203		$582	
Median	$750		$180		$400	
Range	$300-1,005		$80-630		$150-750	

[a] Includes all regular fees and/or tuition.

The practice by some universities of assessing a fee for processing the doctoral student's application was followed in only 21 of the 80 responding institutions. The usual fee was $10, with the range from $5 to $20. Only one institution reported plans to add this assessment to admissions procedures.

Scholarships

Fifty-two, or 65 percent, of the institutions reported the availability of scholarships or fellowships, which were defined as direct grants-in-aid for which no employed service was rendered. The graduate phase of the study revealed that this form of financial support was used by only 22.2 percent of the graduates during the study period. Among those institutions reporting available scholarships, the median number of such stipends was nine, with the median value of the grants at $1175 annually.

Only 21 institutions reported the availability of any scholarship funds under the sole budgetary control of the education unit. At least one administrator saw the lack of departmental control of financial aid programs to subsidize doctoral students as a major problem:

> The number of stipends (and the amount of compensation) available to doctoral majors in education--and under the administrative control of the College of Education--is seriously inadequate. At present, we have only three stipends reserved exclusively for Ed.D. candidates. The Foundation Grant which provides the funds for these three stipends expires shortly. All graduate assistantships are on a non-allocated basis. College of Education majors comprise about 70 percent of all graduate enrollments. In general, graduate assistantships awarded to graduate majors in education comprise 10 to 20 percent of the total number of graduate assistantships. The College of Education is not represented on the scholarship committee which nominates graduate assistantships.

Despite the practice, recommended by some writers, of consolidating scholarship funds and other student-aid programs under the control of the graduate college or some other centralized university agency, the administrator quoted above evidently would not subscribe to the practice because of the indirect effect this type of control has had on doctoral study at his institution. Perhaps the foregoing situation was attributable to interpersonal relationships within the university that precluded access by the education unit to such funds; nevertheless, it indicates the need for consideration of all aspects of this type of control.

As shown in Table 45, a slightly higher percentage of public than private institutions reported the complete absence of any grants-in-aid. However, the difference was hardly great enough to conclude that private institutions were at a distinct advantage in the availability of such funds. Also, there was perhaps less need for direct grants-in-aid in public institutions since lower tuitions tended to provide a similar type of assistance.

No discernible difference emerged during a comparative analysis of this factor in relation to institutional levels of production.

Financial Aid Programs

According to Table 46, one of the most prevalent forms of financial aid on a loan basis was the long-term loan with interest immediately accrued. This practice was more peculiar to public than private institutions. In all, 35 percent of the institutions in the study reported the issuance of loans on this basis. The median value reported for these loans was $1000, at a median of 3 percent interest. The range was from a maximum value of $300 in a few institutions to as much as $5000 in one university. One response indicated that the interest rate rose from 1 to 2 percent after the student graduated; another institution reported a similar increase from 2 to 4 percent; still another reported an increase from 3 to 5 percent after graduation.

In all, there were only 17 institutions, or 21.3 percent, reporting loans granted with interest accruing on the balance only after graduation. A higher percentage of private than public institutions reported this. The median value of the long-term loans with interest on the balance after graduation was $1000, with the median interest at 3 percent. The lowest maximum reported was $300 and the highest was $3600. One institution reported that no interest was charged on these loans, even following graduation, and that this type of aid, by virtue of a stipulation in the grant, was reserved for women graduate students. This was the only reference in the entire study to any practice designed specifically to encourage women in the program!

The most frequently reported form of loan was the emergency loan, available in 35 institutions, or

TABLE 45.--SCHOLARSHIPS AVAILABLE[a]

Scholarships available	Private institutions		Public institutions		All institutions	
	Number	Percent	Number	Percent	Number	Percent
1	2	3	4	5	6	7
Yes	20	68.9%	32	62.7%	52	65.0%
No.	9	31.1	19	37.3	28	35.0
Total	29	100.0%	51	100.0%	80	100.0%

[a] In some institutions the word "scholarship" is synonymous with "fellowship" to the extent that no service is rendered for either. Where an institution reported fellowships on this basis, these figures are included in the above tabulation. Fellowships requiring service and identified by the nature of work (e.g., teaching fellow) are included in Tables 47 and 48.

TABLE 46.—FORMS OF FINANCIAL AID AVAILABLE

Form of aid[a]	Private institutions		Public institutions		All institutions	
	Number	Percent	Number	Percent	Number	Percent
1	2	3	4	5	6	7
Long-term loans with immediate interest	7	24.1%	21	41.8%	28	35.0%
Long-term loans with interest on balance after graduation . . .	9	31.0	8	15.7	17	21.3
Extended payment plan each quarter or semester with interest	1	3.4	1	2.0	2	2.5
Extended payment plan each quarter or semester without interest	14	48.3	10	19.6	24	30.0
Loans for emergencies.	10	34.5	25	49.0	35	43.8
None of the above reported . . .	6	20.7	15	29.4	21	26.6

[a] More than one form of aid was reported by several institutions, accounting for the absence of column totals.

43.8 percent. The median value for these loans was $200, at a median of 3 percent interest. Eleven institutions, however, reported that no interest was charged on emergency loans, while five other universities reported interest rates as high as 5 percent. The range in maximum values of emergency loans was from $10 to $1000.

Twenty-four, or 30 percent, of the institutions reported a practice of extending graduate students' tuition charges, with spaced payments through each quarter or semester, with no interest charged. Two other institutions that had implemented the extended-payment plan charged from 4 to 6 percent.

Noteworthy comments relative to loans were included on three different questionnaires from public institutions. One administrator commented that doctoral loans were not made except in "very severe emergencies," and that undergraduates had priority. One public institution indicated that doctoral students were using loans only for minor expenses. Another administrator observed that, since most of the graduate students at his institution were full-time employed teachers, requests for loans were not made to the university office.

Twenty-one, or 26.6 percent, of the institutions reported the absence of all forms of financial aid covered in Table 46, a situation described by one administrator as "most unfortunate."

The private institutions tended to be slightly more liberal in their extension of financial aid to students; 79.3 percent of the private universities had aid programs for doctoral students, as compared to 70.7 percent of the public institutions. Surprisingly, no differences were observed between high- and low-producing institutions.

Assistantships

Table 47 shows the various types of assistantships available to doctoral students in education. During the two-year study period, there were 1600 of these positions available, 71 of which were not filled! Evidently, these latter 71 posistions were not adequately publicized, or they were not attractive enough for doctoral candidates. According to the graduate phase, slightly less than 40 percent of the graduates during the two-year period relied on assistantships for financial support.

None of the 1600 assistantships reported in the institutional phase, according to directions given in the questionnaire, carried faculty rank. As previously reported in Chapter II, there were approximately 550 faculty members who were also doctoral candidates at the institutions of their employment. Thus, there were approximately 2150 positions open in the participating institutions to doctoral candidates.

As shown in Table 47, the type of assistantship offered by the greatest number of institutions was that of assistant to a professor; 42 institutions reported this type of position. Teaching assistantships and research positions were next, in that order. Some types of assistantships were reported as notably less available than these three. However, the work of the assistant to a professor, if further delineated, might have revealed that some institutions reported the assistantship as an assignment to a staff member rather than according to a particular duty.

TABLE 47.—ASSISTANTSHIPS AVAILABLE[a]

Type	Number of institutions	Private institutions		Public institutions		All institutions	
		Positions available	Positions filled	Positions available	Positions filled	Positions available	Positions filled
1	2	3	4	5	6	7	8
Administrative	11	23	23	12	12	35	35
Assistant in a university office	11	70	70	24	21	94	91
Assistant to a department	6	2	1	53	49	55	50
Assistant to a professor	42	231	218	288	282	519	500
Clinical	11	34	34	9	8	43	42
Counseling	15	10	9	35	31	45	40
Field service	8	13	13	19	19	32	32
Placement	8	5	5	8	7	13	12
Research	28	137	128	100	95	237	223
Residence hall	14	52	47	20	20	72	67
Student-teacher supervision	10	32	29	27	25	59	54
Study council	3	3	2	3	3	6	5
Teaching	32	36	34	186	178	222	212
Others	19	75	75	93	91	168	166
Total		723	688	877	841	1,600	1,529

[a] Includes "fellowships" reported as carrying stipulations that the candidate be responsible for some work assignment. Fellowships that were reported as strict grants-in-aid appear in Table 45.

Miscellaneous titles are grouped under the category "Others" in Table 47. These include laboratory-school assistantships other than student-teacher supervision, internships, assistants in curriculum laboratories, and a variety of unspecified part-time jobs reserved for doctoral students in education. Eleven institutions reported having some "allocated" part-time jobs of this nature.

There were proportionally more assistantships available to candidates in private institutions than to those in public institutions. Though there were fewer assistantships in private institutions as a whole, the mean was 25 as compared to a mean of 17 available in public institutions.

The high producers of each degree reported considerably more assistantships available than were reported by the low producers. There were 227 assistantships available among the 18 low Ed.D. producers as compared to 832 in the 18 high Ed.D.-producing institutions. Similarly, there were 277 assistantships available among the low Ph.D. producers as compared to 817 among the high Ph.D. producers. This, of course, is a "chicken-or-the-egg" proposition; however, the influence that the presence of many assistantships had on "drawing power" and production could not be discredited. Seemingly, there would be more student assistants where there were more students. The question, though, remains: Why were the students "there" in the first place?

Yeshiva University, the College of the Pacific, Baylor University, and the University of Pittsburgh--all private institutions--were the only respondents that reported plans for expansion of their assistantship programs in the near future.

As indicated in Table 48, the highest median salary for an assistantship was for administrative positions filled by doctoral candidates; this was $2400 annually. The lowest paying assistantship appeared to be that of an assistant to a department, the median for which was $1000. Lower salaries in Table 48 probably reflected, along with competency considerations, the practice in many institutions of employing the assistant on something less than a half-time basis. In the case of teaching assistantships, several institutions that reported small salaries pointed out that compensation for a teaching assistantship or fellowship was based on the number of courses taught, the median rate being $250 per course. Nevertheless, the salaries were reported as typical compensation regardless of employment terms.

From a simple inspection of the data, it may be seen that many of the most lucrative and attractive student positions were available in private institutions. The highest salaries in the ranges shown in Table 48 reported by private institutions were for the following types of assistantship: (a) counseling--$3600, (b) assistant in a university office--$4000, (c) placement--$5000, (d) research--$4800, (e) clinical--$5000, (f) supervision of student teachers--$4800, (g) administrative--$5000, and (h) field service--$4800.

TABLE 48.--TYPICAL COMPENSATION FOR ASSISTANTSHIPS, PER ACADEMIC YEAR[a]

Type	Range	Median[b]
1	2 3	4
Administrative.	$ 500—5,000	$2,400
Assistant in a university office .	850—4,000	1,388
Assistant to a department.	600—1,800	1,000
Assistant to a professor	200—1,890	1,150
Clinical	467—5,000	1,350
Counseling.	500—3,600	1,750
Field service	1,200—5,000	2,322
Part-time jobs.	700—2,700	1,800
Placement	1,000—5,000	1,845
Research	750—4,800	1,838
Student-teacher supervision . . .	700—4,800	1,700
Study council	1,200—1,633	1,200
Teaching	500—5,040	1,425

[a] Compensation reported on a quarter, semester, or monthly basis was converted to a per annum basis, using the nine-month academic year exclusive of summers.

[b] Medians were derived on the basis of the number of institutions reporting each type of assistantship.

The highest salaries in the ranges shown in Table 48 were reported in public institutions for the following types of assistantship: (a) assistant to a professor--$1890, (b) part-time job--$2700, (c) teaching (without faculty rank)--$5040, (d) study council--$1633, and (e) assistant to a department--$1800.

Harvard University reported the practice of "packaging" several forms of student aid in order for the candidate to be relatively self-sustaining during residency. Harvard responded that:

> A variety of forms of financial aid are employed to meet the student's financial need and a "package" is made up of scholarships, loans, research assistantships, etc. Our financial aid practices can be understood only in the light of this concept. For outstanding students a "package" may amount to as much as $4,000-$4,500 or more.

It is worth noting that several salaries reported were in ranges that, even by current standards, were attractive enough to persuade able persons to leave regular employment for a period of time during pursuit of a doctoral degree. Other salaries could not have been classed as genuine incentives; they still left the individual with a major financial problem to solve. Of course, doctoral students will probably never see the day when they can be completely subsidized by the university or any other agency. In all probability, they should not expect such support. On the other hand, whatever financial help they obtain to supplement personal savings will have to be quite substantial, especially during full-time residency.

Dissertation Costs

Estimates of the typical cost of the dissertation as given by administrators were considerably short of the estimates given by the graduates themselves, as revealed in the graduate phase. The estimates in both phases were to have been based solely on direct costs incurred in the dissertation production, exclusive of tuition charges or lost earning power. The median estimate of the administrators was $300, with approximately 70 percent of them estimating below $500. Only 51.2 percent of the graduates estimated that their dissertations cost $500 or less. Six administrators, or 10 percent of the 60 respondents who furnished estimates, judged the typical dissertation cost at $1000 or more, while 20.6 percent of the graduates gave this estimate. Only one administrator estimated the cost at $1500 or more; 15.1 percent of the graduates felt their dissertations were in this cost range.

The respondents were asked to indicate what items in the production of the dissertation the candidate was required to finance independently. The following results were obtained:

Items financed independently	Number of institutions	Percent of 80
Typing	75	93.8
Binding	62	77.5
Microfilming	49	61.3
Publication of abstract	27	33.8

Cornell University reported that sometimes the department concerned provided for the typing of the thesis. Purdue University stated that, in most cases, the statistical analysis of data could be paid for by the Department of Education. Auburn University indicated that the School of Education occasionally sponsored a candidate's project. A graduate-student research fund was available (from $50 to $400) for candidates at the University of Michigan who could not finance their own research; this fund, however, was not used for typing, binding, or microfilming. All of these practices indicated attempts to help candidates financially at a time in their programs when, for many of them, any additional expense loomed very large, particularly if the sum were to be strictly an independent obligation.

HOUSING

As shown in Table 49, eight, or 9.9 percent, of the 81 institutions reported that housing priorities existed for doctoral students; 66 institutions, or 81.5 percent, had no such provisions; and seven did not respond to the question. Four, or 13.3 percent, of the private institutions in the study reported the practice of setting up such priorities, as compared to four, or 7.8 percent, of the public institutions.

Slightly over 70 percent of the institutions felt that off-campus housing was easily located. Of the private institutions in the study, 30 percent felt that off-campus housing was not easy for the doctoral candidate and his family to locate, as compared to 21.6 percent of the public institutions.

The biggest housing problem among the institutions appeared to be the availability of easily located on-campus housing. This problem was reported by over 50 percent of the institutions and was more peculiar to the private than the public universities. Of the private institutions, 60 percent reported on-campus housing problems, as compared to 49 percent of the public institutions. Five universities among the 81 reported that housing was more easily located for single than for married students, hardly a redeeming feature for doctoral candidates, the vast majority of whom are married.

There was no difference between the high and low producers of either degree relative to on-campus housing. Over 50 percent in each category reported on-campus housing difficulties. The high producers of both Ed.D. and Ph.D. degrees, however, reported considerably more difficulty locating off-campus housing than did the low producers. Only one of the 18 low Ph.D. producers and two of the 18 low Ed.D. producers reported that off-campus housing was difficult to locate. On the other hand, 10 of the 18 high Ed.D. producers and 7 of the 18 high

TABLE 49.--HOUSING AVAILABILITY

Response	Easily located off campus		Easily located on campus		Priority to doctoral students	
	Number of institutions	Percent	Number of institutions	Percent	Number of institutions	Percent
1	2	3	4	5	6	7
Yes	58	71.6%	30	37.0%	8	9.9%
No.	20	24.7	43	53.1	66	81.5
No answer or qualified	3	3.7	8	9.9	7	8.6
Total	81	100.0%	81	100.0%	81	100.0%

Ph.D. producers reported this difficulty. This problem was in all probability an outgrowth of mere numbers--the greater the number of doctoral students, the greater the demand for housing. In community areas where low-producing institutions were located, housing availability was evidently adequate to meet the minimal need.

One administrator felt that the housing problem went beyond the mere consideration of availability when he made the apt generalization that "all housing is easier to locate than to pay for!"

DROPOUTS

One of the most interesting findings relating to the question of dropouts was that only four institutions reported having conducted studies on doctoral candidates in education who never graduated. These institutions were the University of Minnesota, Wayne State University, Harvard University, and Washington University in St. Louis.

All administrators were requested to indicate what they considered the three major reasons why doctoral candidates did not complete their programs. The reasons reported in Table 50 were, therefore, "educated guesses" for the most part.

As shown in Table 50, both private and public institutions felt that personal finances caused the greatest number of candidates to drop out. The sparsity of scholarships, assistantships, and other forms of financial aid reported by some institutions tended to verify the fact that finance was a primary reason, if not the most prominent one. While it was given as the major reason by both private and public institutions, there was indication that it was a more acute problem in the public institutions. Other analyses of financial conditions in this section of the report also indicated that the private institutions, as a whole, tended to be in a more favored position to assist doctoral candidates financially. Data in this regard were not, of course, sufficiently refined to make a sweeping generalization; nevertheless, the tendency was present.

The analysis of dropouts emphasized the factor of housing inadequacy at private institutions. No public institutions reported this factor as a major reason for dropouts; however, five of the 30 private universities did. Perhaps related to housing inadequacy was the fact that 40 percent of the private institutions felt that family problems resulted in premature termination of doctoral programs, as compared to 23.4 percent of the public institutions.

A higher percentage (76.5) of public institutions considered inadequate scholarship as a reason for dropouts than did private institutions, 53.3 percent of which listed this. This factor would seem to be related to admissions policies; however, there was nothing in the data that definitely indicated that public institutions were any less selective in their admissions procedures. The admissions procedures in the public institutions tended to be more structured than those in the private schools; however, when minimum grade-point averages were required at private institutions, these averages were slightly higher. To say, however, that this factor alone was synonymous with higher selectivity would be placing an undue and unsubstantiated faith in arbitrary grade-point averages as indicators of student success in doctoral programs. Perhaps, too, the whole pattern of flexibility revealed in private institutions throughout the study accounted for the difference.

TABLE 50.--MAJOR REASONS FOR DROPOUTS

Reasons[b]	Private institutions			Public institutions[a]		
	Number	Percent of 30	Rank	Number	Percent of 47	Rank
1	2	3	4	5	6	7
Inadequate personal financing	21	70.0%	1	42	89.3%	1
Recommendation of the institution (inadequate scholarship)	16	53.3	3	36	76.5	2
Excessive demands on time devoted to non-course duties	18	60.0	2	16	34.0	3.5
Academic pressures	11	36.6	5	16	34.0	3.5
Family problems	12	40.0	4	11	23.4	5
Difficulty with dissertation	3	10.0	7	4	8.1	6
Housing problems.	5	16.6	6	...	...	...
Job promotions which precluded continuation of doctoral study	1	3.3	8.5	3	6.3	7.5
Personal health	1	3.3	8.5	3	6.3	7.5
Professional relationships.	...	...	...	1	2.1	9

[a] Four public institutions did not respond to this question.

[b] More than one reason was reported by several institutions, accounting for the absence of column totals.

Of the private institutions in the study, 60 percent felt that excessive demands on time devoted to noncourse duties caused dropouts; only 34 percent of the public institutions listed this reason. No data in this study were available to explain this difference. Knowledge of the working patterns of the two populations would have helped to explain the difference. In part, at least, this concern might have been linked with residence requirements, which in public institutions tended to be more definitely prescribed in terms of a set period of time involving at least one ful academic year. In private institutions, with more flexible and lenient arrangements for residency fulfillment by any combination of day, evening, Saturday, or summer classes, a greater proportion of full-time employed candidates may have been more troubled by work demands causing them to drop out. More permissive residency may have led to the cessation of study by many less motivated students who saw themselves inordinately encumbered by full-time positions off campus.

A few other reasons not shown in Table 50 were listed individually by different institutions. These included reasons related to "agedness," "the oversupply of candidates in the chosen area of concentration," and "the decision that other things are more important than a doctorate."

SUMMARY

One-fourth of the institutions reported no recruitment techniques, while others perceived recruitment as a many-sided process involving a variety of approaches. The most frequently used technique was the face-to-face contact through alumni, faculty, and other personal encounters with "likely prospects." Printed publicity materials were next in popularity.

At least the five highest-producing institutions showed a definite "recruitment consciousness," and there was some indication that the private institutions tended to be more active than the public institutions in recruiting prospective doctoral candidates.

High tuition rates at some institutions did not seem to be a factor that precluded them from normal, or even increased, production.

Twenty-one universities in the study had no scholarships to offer doctoral students in education, and there was no great profusion of these grants among the institutions that had them. There seemed to be a few more scholarships available in private than in public institutions.

One-fourth of the universities reported no financial-aid programs for loaning funds to advanced graduate students. Here again, private institutions were in a somewhat more favored position.

All in all, the whole financial picture appeared to be one of relatively minimal assistance.

Assistantships could hardly have been said to be plentiful, and those that were available were not always particularly remunerative. However, some institutions had assistantships that would permit the recipient to be relatively self-sustaining. Again, indications were that private institutions tended to offer more assistantships, along with having some of the most attractive sums at their disposal. The high-producing institutions had a majority of the assistantships as well as students--an elemental relationship that may, however, have involved more than a numerical connection.

Estimates of the administrators regarding dissertation costs ranged from $100 to over $1500, with a median of $300. This was a rather conservative estimate as seen from the eyes of the graduates who reported in the graduate phase of this study.

Availability of on-campus housing was a problem to at least one-half of the respondents, and the situation was more acute in private than public institutions. Off-campus housing was also more of a problem to private than public institutions; high producers also shared this concern. Very few institutions had set up housing priorities for doctoral students in education.

Only four institutions reported that they had attempted research into the problem of dropouts among doctoral candidates. Among the suggested reasons given for dropouts, finance headed the list, with this concern being somewhat more prominent in public than private institutions. The housing concern of private institutions again showed up in the drop-out analysis; no public institution considered housing problems sufficiently acute to cause students to drop their programs. Private institutions also thought demands of time devoted to noncourse duties caused more students to drop out than was true in the public institutions. The public institutions thought inadequate scholarship (dropouts induced by departmental invitation) a more prominent reason than expressed by private institutions.

Chapter VII

A LOOK AT THE FUTURE

The title of this Chapter leaves the impression that the future of doctoral study in this country is known; now, all that has to be done is to look at it. This, of course, is not the case. In the first place, the anticipated need for doctoral graduates through 1970 has not been established, nor did this study set forth to determine it. In the second place, available projected numbers range from 10,000[1] doctoral graduates for all fields to as many as 36,000[2] annually in the decade ahead, especially toward the end of that period. The total number of doctoral graduates for the next fifteen-year period ranges generally from 135,000 to 235,000.[3] What percentage of these graduates will be entering the field of education is also a question with many conflicting answers.

Most recent estimates of the Office of Education of the United States Department of Health, Education, and Welfare have indicated that by 1970 there will be about double the number of graduates produced in 1957-58 at each of the three degree levels--bachelor's, master's, and doctor's.[4] Therefore, the Office of Education forecast an annual total of 18,100 doctoral graduates for all fields by 1970, a middle-of-the-road projection between the two extremes mentioned in the preceding paragraph. The Office of Education estimate was 13,200 for 1964-65. In 1957-58, there were 8938 doctoral graduates in all fields; this figure would about double by 1970 according to the Office of Education projection.

The field of education during the period, 1954-59, has averaged about 18 percent of the total number of doctorates produced each year. If the same percentage were to prevail throughout the next decade, there would be about 3300 doctoral graduates in education produced in 1969-70, based on the Office of Education estimate. On the same basis, there would be about 2400 education doctorates produced in 1964-65.

As shown in Figure IV, there were 2043 doctoral graduates in education in 1957-58. This figure was obtained from questionnaire responses, with supplementary figures on the few nonresponding institutions derived from printed sources. If this figure of 2043 approaches accuracy and production is assumed to double in the field by 1970, there could be as many as 4086 graduates. At any rate, doctoral production in education by 1970 might range from about 3300 to about 4100. Since doctoral production in the field doubled from 1940 to 1950 and has again doubled in less than a decade, there is some reason to believe that the higher figure of 4100, also based on a theory of periodic doubling, may not be too far out of line, especially since the period involved is longer than a decade.

THE ADMINISTRATORS QUESTIONNAIRE

In the Administrators Questionnaire, a section was devoted to obtaining estimates of future doctoral production at each institution. The respondents were asked to give estimates for three selected years during the decade ahead--estimates which, more than anything else, would reflect general planning.

At the time this was included in the basic survey instrument, it was realized that the estimates returned would not, in a strict sense, be projections based on computations or formulas that had taken into account all known variables. On the other hand, it was hoped that some effort would be made to stretch the imagination, as it were, and to reveal by numerical representation the status of future planning. It was an effort to determine the thinking of college administrators about expanding production and to get at least partial insight into the direction in which plans were headed. The projections reflect the best judgment of the respondents. Undoubtedly, some degree of personal preference has influenced these opinions.

Three of the respondents affixed brief notes to their projections, remarks which state very well the spirit in which data in this Chapter were treated. One administrator said, "These projections represent goals, not calculated estimates." Another remarked, "All figures are estimates based on inadequate data. Suppose you look on them as 'educated guesses.'" The third respondent added, "Figures are little better than guesses, though they do suggest the direction in which we plan to move."

One of the administrators who furnished no estimates felt that such speculation "would be playing."

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[1] Wilson, Owen Meredith. "The Ph.D. Program as a Preparation for College Teaching." Association of American Colleges Bulletin; 44:55-59, March 1958.

[2] Scates, Douglas E., Murdock, B. C., and Yeomans, A. V. The Production of Doctorates in the Sciences: 1936-1948. Washington, D.C.: American Council on Education, 1951. p. 43.

[3] Wilson, op.cit., p. 55.

[4] Conger, Louis H., and Fullam, Marie G. Projection of Earned Degrees to 1969-70. U. S. Department of Health, Education, and Welfare, Office of Education. Washington, D. C.: Superintendent of Documents, Government Printing Office, 1959. p. 4.

Perhaps others felt the same way. At any rate, only 61 of the 81 respondents submitted projections. Obviously, therefore, totals in this Chapter cannot be taken as all-inclusive. The totals are naturally distorted in and of themselves, since many of the highest producers did not furnish estimates. It is in the "goals" and "suggested directions" inherent in these estimates, more than the totals themselves, that this Chapter carries its impact.

Stanford University noted on its questionnaire, which included no projection, that no change was anticipated or expected in regard to expansion of its doctoral programs in education. Teachers College of Columbia University, which also did not furnish a projection, reported that production would probably be maintained at present levels, with only a possible moderate increase.

Projected Production

The estimated numbers provided by the 61 institutions that furnished projections in response to the Administrators Questionnaire were analyzed in comparison to the actual production of these institutions during the two-year period, 1956-58. In 1956-57, these 61 institutions graduated 838 doctoral candidates, and in 1957-58 they turned out 970 graduates. This level of production was representative of the entire group of institutions granting doctorates in the field at that time, since the median number of graduates for both these years was 10 for all institutions. For the 61 institutions that furnished projected enrollments, the median was 11 for 1956-57 and 10 for 1957-58.

These 61 institutions were fairly liberal in their estimates about future production. For 1959-60, they forecast a total of 1441; for 1964-65, 2596, an 80.2 percent increase over their 1959-60 estimate; for 1969-70, 3682. This estimate of the total production of only 61 institutions indeed exceeds the prediction based on figures offered by the Office of Education. And yet, from such a liberal estimate of capacity and interest in expanding production, it is possible to conclude that, as a whole, the majority of the institutions that granted degrees during 1956-58 intend to meet the needs for doctoral graudates during the years ahead. Certainly, variables other than good intentions may preclude them from the realization of such a goal; however, other variables without intentions could prove to be wasted resources.

As shown in Figure VII, the median for these 61 institutions would rise from 10 in 1958 to a projected median of 18 graduates in 1960, 34 in 1965, and 45 in 1970. Also, with each step in the projection, the variability in production among these institutions would widen, from a semi-interquartile range of 9 in 1958 to 12 in 1960, 18 in 1965, and 27 in 1970. The variability in these projections has, of course, been influenced by the fact that many institutions tended toward conservative estimates, while others projected some incredibly high figures.

Six of the 61 institutions showed no projected shift from their present level of production, and two actually foresaw their enrollments declining. Fourteen institutions estimated that by 1970 their level of production would be doubled, and 13 indicated that their level of production would be tripled. The remaining 26 institutions forecast that their production would more than triple by 1970. Among these 26, 4 institutions projected figures higher than 100 for 1964-65. Three additional institutions estimated that they would join this class of above-100 producers by 1970. Only two institutions--Teachers College of Columbia University and New York University--actually produced at this level during either one of the two years covered by this study.

SUPPLEMENTARY QUESTIONNAIRE

In order to add an important dimension to this "look at the future," 291 questionnaires were sent to all institutions that were, in 1956-57, granting the master's degree in education as their terminal graduate offering in the field.[5] These institutions were asked to indicate what plans they had for the next ten years regarding sixth-year programs and the doctorate--289 furnished data for the study. From these responses it was possible to enhance considerably "the picture of things to come."

For instance, it was learned that seven institutions already had added programs. All but one of these seven had started their programs too late to have been included in the analyses throughout this report. Bryn Mawr had added the Ph.D. program in 1929, but was not listed in the printed sources covering the year 1955-56, which was used to identify participants. Two of the seven institutions--the University of New Mexico and Southern Illinois University--had not granted any degrees as of 1959. The remaining four institutions did not grant their first degrees until after the study period used in this report. These were the State University of South Dakota, American University, Boston College, and the University of Kansas City.

Twenty-seven other institutions reported plans to add doctoral programs to their graduate offering during the next decade. These institutions are listed in Table C in the Appendix. The years in which these new programs and the ones at the University of New Mexico and Southern Illinois University should begin yielding graduates (not the years in which the programs will initially be approved or begin

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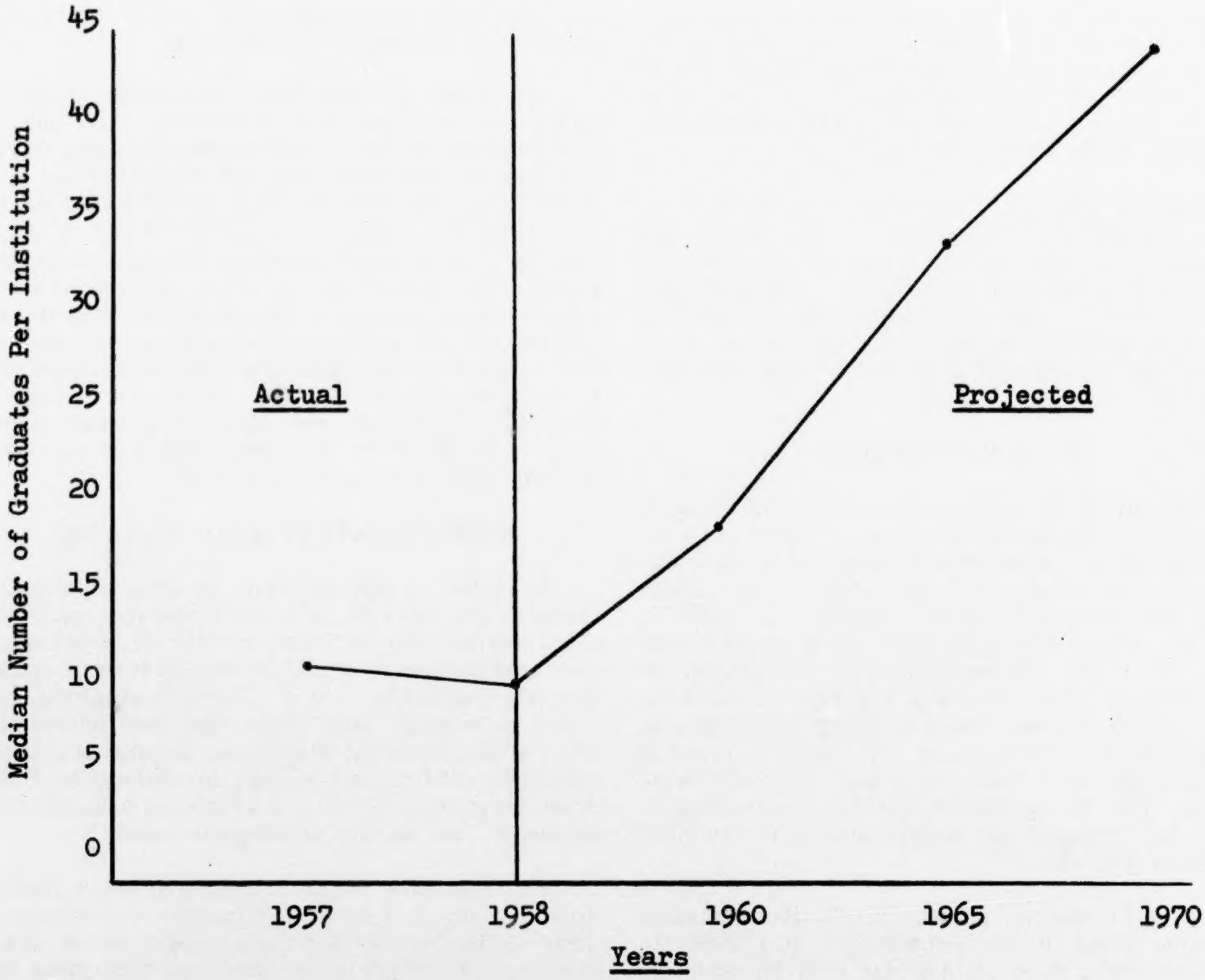
[5] Gertler, Diane B., and Keith, Virginia W. Earned Degrees Conferred by Higher Educational Institutions, 1956-57. U. S. Department of Health, Education, and Welfare, Office of Education, Circular No. 527. Washington, D. C.: Superintendent of Documents, Government Printing Office, 1958. p. 76-101.



1957	1958	1960	1965	1970
Median = 11	Median = 10	Median = 18	Median = 34	Median = 45
Q_1 = 3	Q_1 = 4	Q_1 = 9	Q_1 = 20	Q_1 = 22
Q_3 = 25	Q_3 = 22	Q_3 = 32	Q_3 = 55	Q_3 = 76
Q = 11	Q = 9	Q = 12	Q = 18	Q = 27

FIGURE VII.--ACTUAL AND PROJECTED MEDIAN NUMBERS OF DOCTORAL GRADUATES IN EDUCATION IN SIXTY-ONE INSTITUTIONS

operation) are shown in Figure VIII. According to plans, the majority of these programs should be producing by 1966.

As shown in Table 51, there were 78 Ed.D. programs granting degrees in 1959. Twenty-one additional institutions planned to grant the Ed.D. degree during the decade ahead. Two of these 21--Fordham University and Louisiana State University--already offered the Ph.D. in education and reported plans to add the Ed.D. In all, a total of 99 Ed.D. programs may be granting degrees by 1970.

In 1959, there were 67 Ph.D. programs granting degrees. Plans were for 25 more to be granting degrees by 1970. Included among these were Oklahoma State University, Boston College, and Montana State College, all of which already granted the Ed.D. and reported plans to add Ph.D. programs. In all, a total of 92 Ph.D. programs may be granting degrees by 1970.

Analyses of the sixth-year programs shown in Table 51 appear at the end of this Chapter.

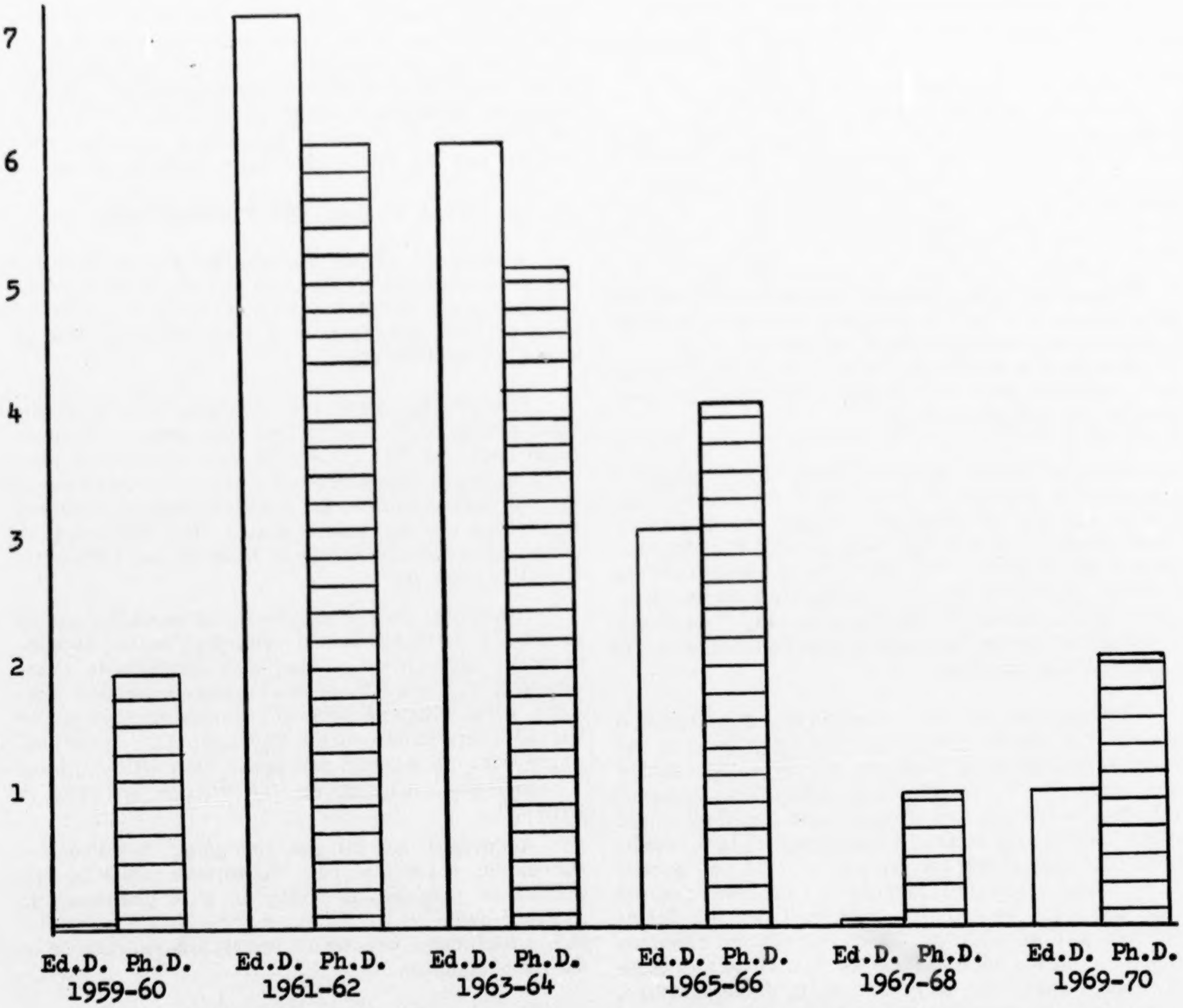


FIGURE VIII.--ADDITIONAL DOCTORAL PROGRAMS PLANNED, SHOWN BY ESTIMATED TWO-YEAR PERIOD IN WHICH DEGREES WILL FIRST BE GRANTED[a]

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[a] Not shown are five other Ph.D. and four other Ed.D. degree programs; no estimated dates were furnished by these institutions.

From these data it can be seen that more Ph.D. than Ed.D. programs were in the planning stages at the time of this study. The number of new Ph.D. programs in education has been leveling off in recent years, as compared to the number of new Ed.D. programs, a trend which may not continue if plans reported in this study materialize.

Seven of the 27 institutions identified by the Suplementary Questionnaire as planning to move into doctoral education for the first time, reported intentions to add the Ed.D. only. Nine reported plans to add only the Ph.D. The other eleven universities reported that they intend to add both degrees.

If all these institutions do add their planned programs, and all those presently offering the degree continue to do so, there will be a total of 126 institutions by 1970 granting the doctorate in the field of education.

Fourteen of the 27 institutions planning to add programs were reported as publicly-controlled institutions, while 13 were privately controlled. Two-thirds of the 27 institutions were east of the Mississippi River.

Only 3 of the institutions reported plans to have the doctorate (in every case, the Ed.D.) under the

TABLE 51.--PLANS FOR ADDITIONAL GRADUATE PROGRAMS ABOVE THE MASTER'S LEVEL

Degrees	Number of graduate programs in 1959	Number of programs which will be added by 1970	Total
1	2	3	4
Sixth-Year . . .	59	25	84
Ed.D.	78[a]	21	99
Ph.D.	67[b]	25	92

[a] Includes American University, Boston College, and the State University of South Dakota, none of which was included in the original list compiled for the Institutional Phase.

[b] Includes Bryn Mawr College and the University of Kansas City, neither of which was included in the original list compiled for the Institutional Phase.

autonomous control of the college of education; 14 institutions planned to administer the degrees directly through the graduate college; the remaining 10 planned to use the dual arrangement for administering the degrees. The dual type of administrative control seemed to receive unusually high endorsement among these 27 institutions; only 7 of the 81 respondents to the Administrators Questionnaire had reported this practice.

Twenty-two of the 27 institutions reported that approval of their programs must be granted by the institution's board of trustees and by a representative body of the faculty. Two institutions reported that this approval had already been received. Five other institutions reported that approval of a representative body of the faculty was all that was necessary. One institution, Marquette University, stated that approval was also necessary from the Jesuit Educational Association. Two institutions reported that in addition to local approval, a change in state statutes would have to be effected by the legislature. Seven institutions reported that, in addition to local approval, the State Board of Education would have to pass judgment on their proposed programs.

Projected Production

Of the 34 institutions identified through the Supplementary Questionnaire as either having recently added doctoral programs or planning to do so, 21 institutions projected levels of production for 1964-65 and 1969-70.

This group proved to be more conservative in their estimates than the respondents to the Administrators Questionnaire; this was to be expected on the basis of "newness." Among these new doctoral degree granting institutions, 350 graduates were estimated for 1964-65, with the median at six. For 1969-70, these institutions estimated a total 632 graduates, with the median at 14.

Despite generally conservative projections, one university estimated that the number of graduates for 1969-70 would place it in the above-100 producers. If this proved true, there could be as many as 10 institutions producing over 100 doctoral graduates annually by 1970, including New York University and Teachers College of Columbia University. Of these ten, four were reported as privately controlled and the remainder were state universities.

TOTAL PROJECTED PRODUCTION

Among the 61 institutions that projected on the Administrators Questionnaire and the 21 institutions that projected on the Supplementary Questionnaire, a total of 2946 graduates was estimated for 1964-65 and 4314 for 1969-70.

Projections were not available for 31 of the total group of 92 institutions that granted degrees from 1956 to 1958. If these 31 institutions each produce at the medians derived from the projections of the 61 respondents to the Administrators Questionnaire who did furnish estimates, they will graduate 1054 additional candidates in 1964-65 and 1395 additional in 1969-70.

Likewise, projections were not available for 13 of the 34 institutions that indicated on the Supplementary Questionnaire that they intended to grant doctoral degrees. If these 13 institutions each produce at the medians derived from the projections of the 21 respondents to the Supplementary Questionnaire who did furnish estimates, they will graduate 78 additional candidates in 1964-65 and 182 in 1969-70.

According to all the foregoing calculations, therefore, a total of 126 institutions could be expected to produce as many as 4078 graduates in 1964-65 and 5891 graduates in 1969-70. Undoubtedly, these estimates create an overly liberal picture of future production.

However, the figures submitted by the 82 institutions that did project their enrollments included some possible future trends worth noting. These trends relate to comparative Ed.D.--Ph.D. production, broad regional production, production in private and public institutions, and, more particularly, production by areas of concentration.

ED.D.--PH.D. PRODUCTION

As shown in Table 52, the 61 institutions responding with projections in the Administrators Questionnaire produced more Ed.D. than Ph.D. degrees during the study period, which was also true of the participating institutions as a whole. Among all 81 participants, 62.7 percent of the graduates during the two-year study period earned the Ed.D. Of the 61 institutions that projected enrollments, the percentage of Ed.D. degrees earned during the same period was slightly less than 62.7 percent, but was, nevertheless, also appreciably above Ph.D. production.

TABLE 52.--ACTUAL AND PROJECTED PRODUCTION, BY DEGREES OFFERED

	Actual						Projected			
Degrees offered	1957	Percent	1958	Percent	1960	Percent	1965	Percent	1970	Percent
1	2	3	4	5	6	7	8	9	10	11
Ed.D.[a]	513	61.2%	545	56.2%	858	59.5%	1,596	61.5%	2,277	61.8%
Ph.D.[b]	325	38.8	425	43.8	583	40.5	1,000	38.5	1,405	38.2
Total. . .	838	100.0%	970	100.0%	1,441	100.0%	2,596	100.0%	3,682	100.0%

[a] Based on 51 Ed.D. programs for which projected figures were available. There were, in 1956-58, 75 Ed.D. programs in the 92 institutions that granted doctorates in education.

[b] Based on 44 Ph.D. programs for which projected figures were available. There were, in 1956-58, 65 Ph.D. programs in the 92 institutions that granted doctorates in education.

TABLE 53.--ACTUAL AND PROJECTED PRODUCTION, BY TYPE OF INSTITUTION

	Actual						Projected			
Type of institution	1957	Percent	1958	Percent	1960	Percent	1965	Percent	1970	Percent
1	2	3	4	5	6	7	8	9	10	11
Private[a]	273	32.6%	302	31.1%	490	34.0%	907	34.9%	1,314	35.7%
Public[b].....	565	67.4	668	68.9	951	66.0	1,689	65.1	2,368	64.3
Total. . .	838	100.0%	970	100.0%	1,441	100.0%	2,596	100.0%	3,682	100.0%

[a] Based on 19 private institutions for which projected figures were available.

[b] Based on 42 public institutions for which projected figures were available.

As indicated in the projection shown in Table 52, the thinking of these institutions concerning future relative emphases on these degrees was about the same as at present. In 1956-57, for example, 61.2 percent of the graduates in these institutions received the Ed.D. degree. According to projected enrollments, 61.8 percent of the graduates in 1969-70 would receive the Ed.D.

Among the 21 institutions planning new programs for which they projected enrollments, the Ed.D. also tended to be emphasized more than the Ph.D. Thirteen Ed.D. programs among these institutions were expected to produce approximately 203 Ed.D. graduates, or 58 percent of the total of 350 for 1964-65, and 381, or 60.3 percent of the total of 632 for 1969-70. Thirteen Ph.D. programs were projected to produce 147 graduates, or 42 percent of the total of 350 for 1964-65, and 251, or 39.7 percent of the total of 632 for 1969-70.

PRIVATE AND PUBLIC INSTITUTIONS

Thirty private institutions returned Administrators Questionnaires, but 11 of these did not furnish projections. Fifty-one public institutions returned Administrators Questionnaires, only 9 of which did not include projections. Several of the highest producers, which were private institutions, did not furnish projections. Consequently, the figures in Table 53 are not representative of the true comparative relationship in 1956-58 between the two types of institutions. Actually, the 30 private institutions produced 62.7 percent of the total number of graduates from the participating institutions during the study period. As shown in Table 53, the private institutions that furnished projections produced only 31 to 32 percent of the graduates in the 61 institutions included in the projection analysis.

It should be noted, however, that from the estimates of future doctoral production, neither private nor public institutions gave any indication of expanding at a rate that would produce a completely one-sided relationship--either almost entirely public or almost entirely private. If any trend is to be noted, the 19 private institutions gave indication of a slightly higher rate of expansion than the 42 public institutions.

In the returns from the Supplementary Questionnaire, only seven private institutions returned projections; twice that many public institutions furnished projections. Obviously, the relationship here was also distorted and depicted a reversal of what was true during the study period, 1956-58. The only trend noted in the returns of the Supplementary Questionnaire was that the public institutions showed indication of a higher rate of expansion than the private institutions, from 75.4 percent of the total projection for 1964-65 to 84.5 percent of the total projection for 1969-70.

TABLE 54.--ACTUAL AND PROJECTED PRODUCTION, BY REGIONAL LOCATION

Location	Actual				Projected					
	1957	Percent	1958	Percent	1960	Percent	1965	Percent	1970	Percent
1	2	3	4	5	6	7	8	9	10	11
East[a]	514	61.3%	671	69.2%	983	68.2%	1,773	68.3%	2,560	69.5%
West[b]	324	38.7	299	30.8	458	31.8	823	31.7	1,122	30.5
Total. . .	838	100.0%	970	100.0%	1,441	100.0%	2,596	100.0%	3,682	100.0%

[a]Based on 35 eastern universities for which projected figures were available.

[b]Based on 26 western universities for which projected figures were available.

TABLE 55.--ACTUAL AND PROJECTED PRODUCTION, BY RANK ORDER AMONG AREAS OF CONCENTRATION[a]

Area of concentration	Rank order				
	Actual production		Projected production		
	1957	1958	1960	1965	1970
1	2	3	4	5	6
School administration	1	1	1	1	1
Guidance and counseling	2	2	2	2	2
Educational psychology and child development.	3	4	4	5	5
Secondary education	4	5	5	4	4
Elementary education	5	3	3	3	3
Higher education.	6	8	7	7	7
History and philosophy of education.	7	7	8	10	11
General curriculum	8	6	6	8	8
Physical education.	9	14.5	15	9	12
Educational measurements and statistics	10.5	12	12	13	14
Special education	10.5	12	9	6	6
Teacher education	12	14.5	10	11	10
Business education	13.5	9	13	14	13
Foundations of education.	13.5	12	16	15	16
Mathematics education	15	24	19	18	18.5
Music education	17.5	17	17.5	17	17
Science education	17.5	16	11	12	9
Agricultural education	17.5	10	17.5	20.5	21
Audio-visual education.	17.5	21	14	16	15
Vocational education	21	19	20	22	24
Art education	21	22	21.5	24.5	25
English education	21	18	23	23	23
Home economics	23	20	25.5	20.5	20
Foreign-language education.	24.5	26	25.5	24.5	22
Nursing education	24.5	24	24	26	26
Social science education.	26	24	21.5	19	18.5

[a]Not shown are a few other areas for which projections were furnished. These areas were usually peculiar to only one institution and involved very small numbers.

REGIONAL PRODUCTION

Of all the doctoral degrees in education produced during the two-year study period, 68.9 percent were graduated from 53 institutions east of the Mississippi River. The other 31.1 percent were graduated from 39 institutions west of the Mississippi.

The projection, shown in Table 54, reflects about the same gross regional relationship through 1970, with the eastern universities producing more than two-thirds of the graduates. In fact, the projection shows that the eastern institutions anticipate a slightly higher rate of expansion than the western institutions.

Among the institutions that furnished projections in the Supplementary Questionnaire, the same relationship seemed to prevail. Nine western institutions projected numbers of graduates that would constitute

TABLE 56.--PRODUCTION OF DOCTORAL GRADUATES, BY AREAS OF CONCENTRATION[a]

Area of concentration	Actual production		Projected production		
	Percent of total, 1957	Percent of total, 1958	Percent of total, 1960	Percent of total, 1965	Percent of total, 1970
1	2	3	4	5	6
School administration	31.3%	27.8%	20.9%	17.4%	15.2%
Guidance and counseling	13.4	13.9	14.7	13.8	13.0
Educational psychology and child development	10.0	8.4	8.3	7.6	7.0
Secondary education	8.2	5.8	7.7	8.3	9.2
Elementary education	7.3	8.6	9.3	9.1	9.5
Higher education	4.4	3.4	3.8	4.3	4.6
History and philosophy of education	3.3	4.4	3.5	3.1	3.0
General curriculum	3.2	5.2	4.5	4.0	4.4
Physical education	2.5	1.8	1.9	3.2	2.8
Special education	2.1	1.9	3.5	5.5	6.7
Educational measurements and statistics	2.1	1.9	2.3	2.4	2.3
Teacher education	1.7	1.8	3.3	3.1	3.1
Business education	1.6	2.8	2.3	2.2	2.8
Foundations of education	1.6	1.9	1.7	2.1	1.8
Mathematics education	1.2	.3	.9	1.3	1.4
Science education	.9	1.7	2.8	3.1	3.2
Audio-visual education	.9	.7	2.1	1.8	1.8
Music education	.9	1.3	1.4	1.7	1.8
Others	3.4	6.4	5.1	6.0	6.4
Total	100.0%	100.0%	100.0%	100.0%	100.0%

[a]Does not include any fields with proportions consistently below 1 percent throughout the actual or projected years.

32.6 percent of the 1964-65 total and 31.1 percent of the 1969-70 total. Twelve eastern institutions planning doctoral programs furnished projections that accounted for more than two-thirds of the totals for these same years.

The projection, both in terms of the number of anticipated programs and in numbers of graduates, therefore, indicated a continued dominance on the part of the institutions in the eastern part of the country in the production of doctoral graduates in education. At the time of the study, the ratio of total population east and west of the Mississippi River was the same as the ratio of doctoral production in education. With the center of population moving farther westward and the projected pattern of mobility in this country indicating a continued westward movement, the present ratio of total population promises to shift by 1970, perhaps quite markedly. Will the educational leadership tend to shift proportionally?

AREAS OF CONCENTRATION

One of the most interesting aspects of the projected enrollments was an analysis of the areas of concentration in which the respondents placed their "future graduates." Perhaps, more than any other phase of the projection, this analysis revealed directions future production might take. At least, it was interesting to look on this particular phase as representative of the way present-day administrators perceived the relative emphases major areas of concentration should receive.

Changing Patterns

The ranking of areas of concentration during the period 1956-58 for the 61 institutions that furnished projections was very similar to the ranking of production for all participating institutions.

It can be noted in Table 55, that several fields showed rather decided shifts toward higher rankings in the years ahead. These fields include special education, science education, teacher education, and audio-visual education.

Another way of representing relative degrees of emphasis that may be given each area of concentration is shown in Table 56. Here, by means of percentages of each year's total, it can be seen that while school administration promises to retain the highest ranking, proportionally fewer graduates may be expected in this area during the next ten years. If plans were to materialize in the 61 institutions that furnished estimates through the Administrators Questionnaire, school administration in 1970 would receive proportionally half the emphasis, based on annual total output, it received in 1956-57. This is an interesting observation inasmuch as none of the

67 institutions that granted degrees in school administration during the study period gave any specific indication of plans to give less emphasis to this particular area. This observation is doubly interesting in light of the number of new doctoral programs in the field of school administration planned for the future, a point to be covered later in this Chapter.

Two other areas that showed a proportional decline in the three projected years included educational psychology and child development and history and philosophy of education.

Guidance and counseling, the second ranking area throughout the actual and projected years, maintained a rather stable position at about 13 to 14 percent.

Both elementary and secondary education showed percentage gains for the years ahead. Presumably, these two areas, along with others, would be expected to absorb some of the emphasis previously held by school administration and some of the other areas mentioned. Other areas that showed percentage gains were science education and special education, both of which, according to the projection, would receive decidedly higher proportions of the graduates by 1970 than they did during the years 1956-58. It was interesting to note that contemporary companions of science education, namely mathematics education and foreign-language education, did not show such gains; in fact, the latter field was eliminated from Table 56, because its proportion throughout the projection was less than 1 percent of each total. Teacher education also showed a proportional gain over actual production during the study period, leveling off in the projected years at about 3 percent.

Five of the fields that will receive appreciably different proportional emphases during the years ahead, according to the projection, are depicted graphically in Figure IX.

The area-of-concentration picture, received from the projections included on Supplementary Questionnaire returns, was very much the same as the foregoing, except for science education. The following analysis includes representative areas, shown by projected percentages of the totals for the two years covered by the Supplementary Questionnaire:

Area of concentration	Percent of total 1965	Percent of total 1970
School administration	26.3%	23.6%
Guidance and counseling	17.1	15.0
Elementary education	10.0	10.9
Secondary education	8.9	8.5
Educational psychology	5.1	4.3
Special education	2.3	3.2
History and philosophy	2.9	2.5
Science education	.9	.9

New Programs Planned

The Administrators Questionnaire asked that the respondents not only project figures in areas they were currently offering, but also indicate additional areas they planned to offer in the next decade. The results of this request, along with the areas to be offered by the new institutions identified by the Supplementary Questionnaire, are shown in Table 57.

TABLE 57.--AREAS IN WHICH ADDITIONAL PROGRAMS ARE PLANNED[a]

Area of concentration	Number planning an Ed. D.	Number planning a Ph. D.
1	2	3
School administration	17	. . .
Guidance and counseling	15	14
Elementary education	15	12
Secondary education	9	5
Special education	8	5
Educational psychology and child development	8	5
Mathematics education	2	8
History and philosophy of education	7	4
General curriculum	6	5
Social science education	3	6
Higher education	3	6
Science education	1	6
Educational measurements and statistics	5	5
Foundations of education	5	3
Audio-visual education	4	4
Business education	. . .	4
Teacher education	3	3

[a] Programs planned by two institutions or less are not shown in the above table.

Here again, the areas of elementary, secondary, and special education showed promise of gaining more attention in the years ahead. However, educational psychology and child development and history and philosophy of education, which will also be offered in several additional institutions, may actually experience proportionally fewer graduates according to Table 56. Also, mathematics education, which showed no proportional gain, did show promise of being more widely offered, as seen in Table 57. The actual number of programs cannot, therefore, be used as an indicator of possible proportions in each field because of individual institutional emphases on selected fields in which they may be peculiarly equipped to produce large numbers. Teacher education, for example, which showed some promise of receiving greater proportions of future production will evidently gain its new support primarily from already existing programs, since very few new programs in that area were reported under consideration.

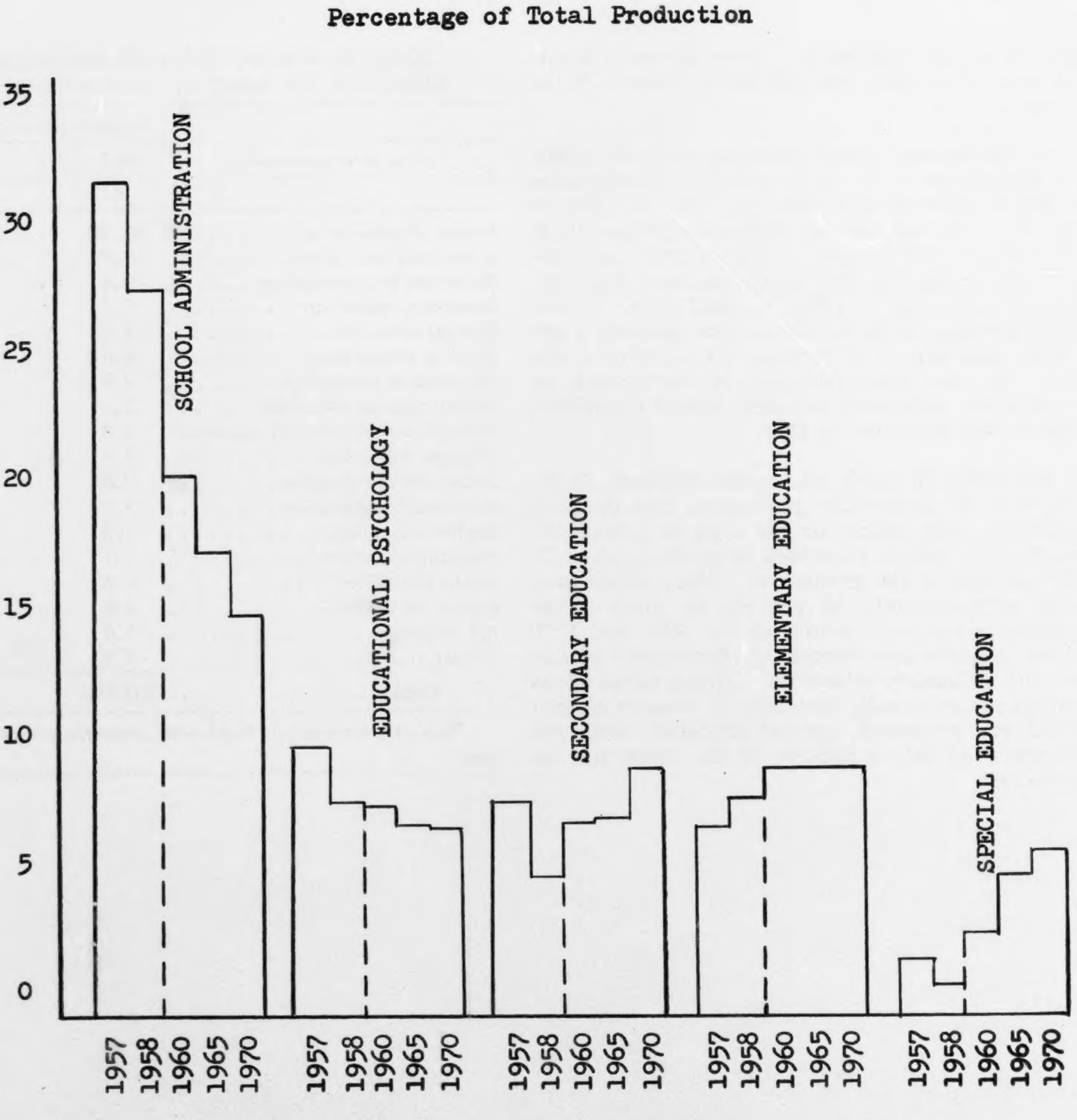

FIGURE IX.--SELECTED AREAS OF CONCENTRATION, BY PERCENTAGE OF PROJECTED PRODUCTION[a]

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[a] Dotted line separates actual from projected percentage of total production.

The relation of the number of programs to proportional output promises to be a negative one in the area of school administration. Even though 67 institutions among the 81 participants and 17 additional institutions may be offering this area by 1970, proportionally fewer graduates may be graduating in school administration, according to the projection.

It is also interesting to note in Table 57 that no additional Ph.D. programs in school administration were reported under consideration. Perhaps, this is an indication of an effort on the part of these institutions to differentiate the purposes of the two degrees, a differentiation that may preclude any additional extension of the Ph.D. degree to cover the professional field of school administration.

SIXTH-YEAR PROGRAMS

As shown in Table 51, there were 59 sixth-year programs in education as of 1959. Through the Supplementary Questionnaire, it was ascertained that 25 additional sixth-year programs were planned by 1970, bringing the total to 84. If all plans reported in this section materialize, only 17 institutions will be offering sixth-year programs without granting the doctorate in education. Institutions that granted sixth-year degrees in 1959 are shown in

Table B in the Appendix. Those planning to add sixth-year programs are included in Table C in the Appendix.

Of the 84 institutions planning to grant sixth-year degrees in 1970, 54 furnished projections for the years 1964-65 and 1969-70. For the former year, these 54 institutions estimated production at 1634, and for 1969-70 they projected 2906. According to the projection, the median number of graduates per institution by 1969-70 would be 26. Seven, or 12.9 percent, of the 54 institutions estimated that by 1970 they expect to produce 100 or more graduates. At the other extreme, 10 institutions, or 18.5 percent, estimated that their annual production would be less than nine by 1970.

According to Table 58, major emphasis in the production of sixth-year graduates, like doctoral production, will center on the area of school administration, which promises to produce from 20 to 25 percent of the graduates. Other areas producing approximately 10 percent or more of the projected sixth-year graduates for 1965 and 1970 include guidance and counseling, elementary education, and secondary education. Among those areas in which proportionally less than 10 percent of production was projected, special education stood out with approximately 5 percent of the totals for the two years.

TABLE 58.--PRODUCTION OF SIXTH-YEAR GRADUATES, BY AREAS OF CONCENTRATION[a]

	Projected production (%)	
Area of concentration	1965	1970
1	2	3
School administration	26.3%	21.6%
Elementary education	13.9	12.7
Guidance and counseling	13.4	13.4
Secondary education	9.7	10.6
Special education	4.5	4.8
Science education	4.0	4.6
Educational psychology.	3.7	3.2
Social science education	3.5	4.6
Business and commercial education.	2.8	3.0
General curriculum	2.2	2.1
Audio-visual education.	2.0	2.1
Mathematics education	1.9	2.3
English education.	1.8	2.7
Physical education.	1.7	2.8
Music education	1.6	2.0
Higher education.	1.6	1.5
Art education	1.0	1.7
Others	4.4	4.3
Total.	100.0%	100.0%

[a] Does not include any fields with proportions below 1 percent.

Chapter VIII

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

SUMMARY

There were 65 Ph.D. and 75 Ed.D. programs in 92 institutions which granted doctoral degrees in education during the years 1956-58. Of these institutions, 56 were publicly controlled and 36 were privately controlled. The major findings from this study related to 81 of these colleges and universities, which participated by furnishing information about their doctoral programs.

The institutions and their doctoral programs included in the study constituted a picture of diversity. For instance, full-time education faculty members ranged in number from 7 to 152. Some institutions permitted doctoral candidates to hold faculty rank while pursuing degrees; others had a policy against such a practice.

Several Ed.D. programs were administered solely by the college of education; more were administered by the graduate college. Almost all Ph.D. programs were administered by the graduate college.

Of 3116 graduates from the 81 participating institutions, nearly one-third were produced in the state of New York alone; eight other states produced none. Over one-third of these graduates received their doctorates in the Middle Atlantic region; at the other extreme, less than 10 percent were graduated from universities in the South Atlantic and East South Central regions combined. Two-thirds of the degrees were granted in institutions east of the Mississippi. Over one-half of the degrees were granted by private institutions.

Seven institutions produced only one graduate each, while five other institutions each produced 100 graduates or more.

Of the 92 institutions, 67 produced graduates in the area of school administration, while only 17 produced graduates in teacher education, 15 in special education, and 12 in audio-visual education. At least 42 areas of concentration received graduates from less than a dozen different institutions. Five areas received over half of all the graduates; these were school administration, guidance and counseling, educational psychology, elementary education, and secondary education. School administration alone received nearly one-fourth of all the graduates.

Comparisons Between Ed.D. and Ph.D. Degrees

While the total picture was one of diversity and dissimilarity, the data did not reveal as much differentiation between the two degrees as traditional statements of purposes would have indicated. Such a finding may have related to the nature of the questionnaire utilized. Certainly, minute differences or actual operational differentiation between the two degrees in each institution would not have been as apparent in a study of this nature as in a case-study approach.

Attempts to obtain an over-all picture of the aims of each degree were not successful. Some institutions with varied offerings, which ranged from a research-scholarship orientation to a practitioner-professional emphasis, granted either the Ed.D. or the Ph.D. degree only, to apply to all areas of concentration. Other institutions which offered both degrees attempted to reserve the areas of psychology, measurement, and research for the Ph.D. candidate, while Ed.D. candidates enrolled in areas leading to roles in the public schools; in particular, these areas were school administration, elementary education, secondary education, and general curriculum. However, the fact remains that Ed.D. degrees were granted in such nonpractitioner areas as educational psychology, statistics and measurement, clinical psychology, and educational sociology; and Ph.D. degrees were awarded to graduates in the areas of school administration, physical education, counseling, and other practitioner areas.

Analyses of requirements for the degrees did, however, reveal continued emphasis on the classic differences--the foreign-language and dissertation requirements. On the whole, the Ph.D. degree has retained either the traditional emphasis on two foreign languages or some more flexible foreign-language requirement, while the Ed.D. candidate has generally been exempt from any such requirement. It is worth noting, however, that several Ed.D. programs have the irrevocable requirement of at least one foreign language, while a few Ph.D. programs have moved toward the practice of permitting graduation without any foreign-language requirement, depending on the candidates' individual needs.

Only two Ph.D. programs permitted deviations from the traditional dissertation requirement, as compared to fourteen Ed.D. programs which permitted field study reports, professional creative productions, or essays on educational topics in lieu of the formal dissertation.

There was some indication that the Ed.D. degree tended to be more structured in its form and, in some instances, more demanding in its requirements. For the Ed.D. degree, more course hours were generally necessary.

Especially with regard to admissions requirements, the Ed.D. degree tended to be more demanding--entrance examinations were more frequently administered, admissions interviewing was more often required, and the Ed.D. aspirant had to hold a valid teaching certificate in considerably more cases than was true of the Ph.D. applicant.

On the other hand, preferred maximum age limitations were more frequently stated for Ph.D. programs, residence requirements were somewhat stiffer, and the Ph.D. candidate was more frequently required to enroll in cognate work.

Comparisons by Type of Institution

Public institutions were noticeably more structured in their approach to programming aspects of doctoral study than were private institutions. For instance, public universities stated the following requirements more frequently than private institutions: evidence of having earned a master's degree, letters of recommendation, teaching experience and certificates, arbitrary undergraduate and graduate grade-point averages, entrance examinations, total course hours, and core requirements. Public institutions also tended to be less flexible in permitting deviations from the standard foreign-language and dissertation requirements.

Private institutions appeared to be somewhat more recruitment-conscious and were perhaps less troubled about financial subsidization of doctoral study in education. This was emphasized by the fact that private institutions placed less stress on personal financial difficulties as a drop-out factor. Also, the private institutions tended to offer comparatively more scholarships, assistantships, and student loans.

Housing availability seemed to be more of a problem to the private institutions as a group than the public institutions. This may have been related to the fact that though there were fewer private institutions in the study, these universities produced more graduates. On the whole, housing problems were naturally more acute where greater numbers of students and greater demands on housing were present.

Private institutions tended to be somewhat more restrictive in terms of stating a briefer maximum period of time permitted for culminating doctoral study. At the same time, private institutions appeared to be less stringent in regard to stating a specific period of full-time residence. The two factors would seem to operate against each other--a more restricted period of time tending to expedite doctoral study; at the same time, rather lenient residency might tend to prolong the program. Perhaps the tendency of private institutions to require a briefer period of study compensated for the more lenient attitude toward residency; on the other hand, the two factors may have been complementary.

College-of-education control of doctoral programs was more peculiar to private than public institutions. As described in the following paragraphs, college-of-education-administered programs tended toward greater flexibility than graduate-college programs. This internal control factor, therefore, explains in part the nature of doctoral programs in private institutions.

Administrative Control of Degrees

Since almost all Ph.D. programs were controlled by the graduate college, it was not feasible to contrast different types of Ph.D.-administration patterns. This was not the case with regard to the Ed.D. degree.

On the whole, college-of-education administration of Ed.D. programs tended to be considerably more flexible than graduate-college control. Graduate college residence requirements tended to be more stringent; more total hours were required; core courses were required more often and in greater numbers; teaching certificates were more often necessary; and hours earned through extension courses were less often acceptable. Graduate-college Ed.D. programs also tended to include some form of foreign-language requirement more often than programs under college-of-education regulations, and the traditional dissertation requirement was more frequently peculiar to graduate-college control.

In addition, graduate-college programs appeared to be more structured in the provision of admissions interviewing and counseling.

The only significant factor in which college-of-education control of Ed.D. programs appeared more stringent was the acceptance of fewer hours on transfer from other institutions.

Comparisons Between High and Low Producers

With regard to a few requirements, the institutions that produced the most graduates during the two-year study period exemplified more liberal administration of degree programs. High producers tended to be less stringent with regard to residence, the requirement of cognate work, and the undergraduate grade-point average. They were also more flexible with regard to foreign-language requirements and tended to encourage a briefer maximum period of time for doctoral study, a factor which possibly had a direct relationship to higher production. Also, high producers had considerably more assistantships available, as would be expected.

High producers, on the other hand, tended to be more structured than low producers with regard to the number of core courses required. The high producers were also more restrictive in the number of hours acceptable on transfer and in accepting hours earned through extension work.

It is worth noting that high producers tended to state actual preferred maximum ages expected of applicants more often than low producers did.

While there was no conclusive evidence to explain why some institutions produce more graduates than others which are seemingly comparable in resources and size, there was some indication that the more flexible arrangements prevailing in high-producing institutions may have influenced "drawing power" and the size of graduating classes. Also, high producers tended to require a lower age for candidates and a shorter period of time needed for degree completion. With regard to at least one finance factor--assistantships--higher producers were in a better position to recruit additional students and offer financial assistance. High producers were also very often found in large urban areas. Of course, there is the possibility, too, that while all of these factors contributed to higher production, the factors themselves may have been created by consistently high production.

Profile of Admissions Requirements

For ease of summarization, the following profile was prepared. The so-called diversity pattern which characterized this whole study naturally was minimized in the attempt to present a picture of modal tendencies. Nevertheless, the data did reveal somewhat uniform patterns relative to many requirements. The "typical" doctoral program required:

1. A baccalaureate and a master's degree from an accredited institution. (Eight institutions did not require a bachelor's degree, and 29 did not require a master's degree from an accredited institution. Twenty-four of these institutions required no master's degree whatsoever, but did require equivalency in credit hours. The other five required a master's, but not necessarily from an accredited institution.)

2. A "B" undergraduate average. (Twenty institutions stated they accepted less, 29 stated no undergraduate average.)

3. A "B" graduate average. (Three institutions stated they accepted less and, here again, 29 stated no average.)

4. Two standardized admissions examinations; the five most frequently administered were the Miller Analogies Test, a locally constructed battery, GRE-aptitude, GRE-advanced education, and forms of the Cooperative English Test, in that order. (Fifteen institutions reported that no admissions examinations were administered.)

5. Three letters of recommendation. (Sixteen institutions required none; the range was from 0-13 letters.)

6. One personal admissions interview, usually with the dean of education, prospective adviser, or a faculty committee. (Twenty-four institutions had no such requirement; the range was from 0-4 interviews.)

7. Two years of teaching experience and, if degree work were to be in school administration, two years of administrative experience.

8. A teaching certificate valid for public-school teaching--if the degree were to be an Ed.D., and if the institution were publicly controlled, and if the degree program were administered by the graduate college.

9. Admission on a provisional basis, if necessary. (Thirty institutions did not permit such a classification, however.)

10. Admissions counseling, usually within the department, in addition to that offered by the departmental adviser. (Seventeen institutions offered none.)

11. No specified age minimum or maximum. (However, three institutions reported an unequivocal maximum; 24 other institutions preferred that the maximum age be generally 40.)

Profile of Curricular Requirements

The "typical" or modal doctoral program included the following curricular requirements:

1. Total semester hours beyond the master's degree--60 for Ed.D., 48 for Ph.D. (Range for Ed.D. from 30-90; for Ph.D., 20-96.)

2. Semester hours in the field of education--32 for Ed.D. (range: 6-60); 36 for Ph.D. (range: 12-63).

3. No specified minimum number of semester hours outside professional education. (However, 37.9 percent of the Ed.D. programs and 42.7 percent of the Ph.D. programs had such a requirement.)

4. Semester hours beyond the master's required at the institution from which doctorate was to be granted--30 for both degrees. (Range for Ed.D., from 24-60; for Ph.D., from 18-60.)

5. Semester hours including the master's accepted on transfer and which would apply toward doctorate--45 for Ed.D. (range: 30-60) and 42.5 for Ph.D. (range: 18-60).

6. Semester hours beyond the master's accepted on transfer and which would apply toward doctorate--16 for Ed.D. (range: 0-35); 17.5 for Ph.D. (range: 0-30).

7. Seven years recommended as maximum period of time for completion of degree after admission to study (range: 3-12 years). (Twenty-two institutions reported no stated maximum.)

8. Average length of time candidates took for completion of degree from admission to study through graduation--for part-time students: 5 years (range: 3-12 years); for full-time students: 3 years (range: 2-6-1/2 years).

9. The modal residency description was that the candidate "must be a full-time student for two consecutive semesters or three quarters." (Eighteen institutions permitted residence requirements to be fulfilled by any combination of summer, evening, or Saturday classes.)

10. Number of semester hours in courses virtually limited to doctoral students in education: nine (range: 0-33). (Fourteen institutions reported none.)

11. Requirements for majors and minors for the Ed.D. degree were satisfied completely in the field of education in 59 percent of the programs; the remainder required a cognate minor or major. Requirements for the Ph.D. degree were satisfied completely in the field of education in 52 percent of the programs; the remainder required a cognate minor or major.

12. Maximum credit load permitted per semester or quarter: 15 credit hours (range: 12-18 hours).

13. Credit limits for employed candidates: full-time employment--5 hours; three-fourths-time employment--6 hours; one-half-time employment--10 hours; one-fourth-time employment--12 hours.

14. The typical institution did not permit credit hours earned through extension courses to apply toward the doctorate; those that did accepted a median of 9 extension-course hours and stipulated that the student carry no more than 3 semester hours by extension during any one semester.

15. Grade point required during pursuit of doctoral course work: "B." (Fifteen institutions reported the use of marking scales other than "A," "B," "C," etc. Twelve institutions required a "B+" or "A-," one accepted a "B-," and two institutions accepted a "C+.")

16. Number of courses in core: four for the Ed.D. (range: 0-11); three for the Ph.D. (range: 0-10). Twenty-two institutions reported no core requirements. Most frequently required courses, shown by the percentage of the participating institutions, were as follows:

Educational measurement	61.3%
Educational statistics	47.5
Educational psychology	36.3
Philosophy of education	33.8
Curriculum and instruction	21.3

17. No foreign language required for Ed.D.; a reading competency in two foreign languages (no waiver) for Ph.D.

18. Formal dissertation for both degrees. (Fourteen institutions reported a choice for Ed.D.; the choice being from among a dissertation, joint study, essay, or field report. Only two Ph.D. programs reported similar latitude.)

19. Terminal research project committee members: five; final oral committee composition: five members, including one from outside the education unit.

20. Examination programming: (a) written admissions examination (diagnostic), (b) written candidacy examination, (c) oral candidacy examination, (d) final oral examination over thesis.

Related Conditions

Summary statements in reference to housing, drop-out factors, assistantships, fellowships, and various other financial considerations have been integrated in the analyses included in this Chapter. At least the highlights warrant reiteration.

The general picture of financial support for the doctoral student was not an encouraging one. Only about one-half of the institutions reported availability of long-term or emergency loans. Less than a third reported use of the extended payment plan. Twenty-one institutions reported no form of direct financial aid available for doctoral students.

Scholarships with a median value of $1175 per academic year were available at 52 institutions.

In 80 institutions there were 1600 assistantships available in education; strangely enough, 71 of these were not filled at the time of the study. The types of assistantships found in the greatest number of institutions were the assistant to a professor and research and teaching assistantships. Administrative assistants received the highest typical remuneration--$2400 annually; assistants to a department received the lowest--$1000 annually. The over-all annual average salary for assistants was approximately $1800.

The median tuition for full-time graduate students per academic year was as follows:

Private institutions	$750 (range: $300-1005)
Public institutions:	
in-state	$180 (range: $ 80-630)
out-of-state	$400 (range: $150-750)

The respondents estimated the cost of the dissertation to be typically about $300. Some estimates, however, were as high as $1500, or more.

The most frequently estimated reason for drop-outs was "inadequate personal financing." Next in frequency were "inadequate scholarship" and "excessive demands on time devoted to non-course duties."

Housing appeared to be more of a problem in the private than the public institutions. The concern was principally centered on housing availability on campus. Private institutions considered housing inadequacies as the sixth most important reason candidates dropped out; no public institution reported this as a major drop-out factor.

The five most frequently reported recruiting practices were: (a) faculty and other personal contacts; (b) publications; (c) scholarships, fellowships, and assistantships; (d) personal letters; and (e) reliance on reputation and alumni.

Projected Production

In addition to the 92 institutions that offered doctoral degrees in education during the period 1956-58, 34 other institutions indicated intentions to add doctoral programs by 1969-70.

Based on various published estimates of total doctoral production, computations revealed that the field of education could expect from 3300 to 4100 in 1969-70. In effect, these estimates indicated that production would be double that of 1957-58, at which time 2043 doctoral candidates received their degrees.

Based on projections furnished by participating institutions in this study, the 126 degree-granting institutions would be producing 5891 graduates by 1969-70.

Despite the admittedly liberal nature of the respondents' projections, several interesting and noteworthy trends were observed in their estimates. These trends were as follows:

1. The future relative emphases on Ed.D. and Ph.D. production will be approximately the same as the present, with approximately three-fifths of the candidates receiving Ed.D. degrees.

2. Neither private nor public institutions will expand at a rate that will produce a completely dominant position in production by either type of institution.

3. Continued dominance on the part of institutions in the eastern part of the nation will be retained, with about 70 percent of the graduates receiving their doctorates east of the Mississippi River.

4. School administration and guidance and counseling promise to receive the highest number of graduates. School administration may, however, experience proportionally lower production than it did during 1957-58. Proportionally higher production may be expected in elementary and secondary education. Other areas that may receive proportional gains are science and special education.

Fifteen or more institutions are planning to add new programs in school administration, guidance and counseling, and elementary education.

The projection analysis also revealed that, in addition to the present 59 sixth-year programs, 25 new ones will be operating by 1969-70. Major emphases in the sixth-year programs will center on school administration, guidance and counseling, elementary education, and secondary education.

Changes Anticipated

Plans to make important changes in doctoral programs were reported by several institutions in regard to each of the following areas:

1. Discontinuance of provisional admission
2. Addition of entrance examinations for the first time or a "firming-up" of already existing examinations requirements
3. Improvement of admissions counseling
4. Addition of core requirements in programs that have previously had none stated
5. Expansion of assistantship offerings.

In reference to almost every requirement or condition covered by this study, at least one institution reported plans to make certain changes. The above list, however, included only those areas reported by three or more institutions.

The list was hardly inclusive enough for generalization; however; the tendency inherent in most of these anticipated changes indicated a "firming-up" of requirements and a structuring of programming elements of doctoral study. At least the trend seemed to be in the direction of adding structured features to programs, rather than reducing the number of set requirements.

CONCLUSIONS

Because of the diversity of institutional settings in which doctoral programs in education have been organized, it has been difficult to formulate highly specific conclusions on the strength of data involved in this study. In the first place, the very nature of American graduate education has made it impractical, if not impossible, to be highly specific in deriving standardization or uniformity. Indeed, progress in doctoral education has been made, and will probably continue to be made, on the strength of diversity and institutional individualism as much as through efforts to derive uniform patterns. However, there would be weakness in justifying all differences between programs simply on the basis of institutional and traditional factors. It would likewise be simple, but erroneous, to conclude that there will always be as many answers as there are institutions to the question: What is doctoral study in education?

In light of these considerations, the following conclusions were drawn:

1. Are Ed.D. and Ph.D. programs characterized more by similarities or differences? This study revealed certain essential differences which, by and large, have been noted between the two degrees ever since the inception of the Ed.D. degree. In the main, however, the two degrees, from the point of view of programming procedures, highly resembled each other according to data reported in this study. In some institutions the degrees were identical for all practical purposes and by the admission of the respondents. Other institutions have made great effort to distinguish between the two degrees on the premise that they should serve different functions. Still others have continued to use one degree or the other to satisfy all needs in their doctoral programs in education.

Efforts on the part of some institutions to maintain basic differences between the two degrees while other universities perceive them as practically identical, or while some institutions offer one degree to the exclusion of the other, will continue to create a measure of confusion in the profession. This confusion will inevitably exist as long as graduates from these various institutions intermingle within the operational field of education.

The effort to differentiate requirements for the two degrees on the basis that the Ph.D. degree serves research and scholarly purposes and the Ed.D. degree serves practitioner or professional purposes may never gain wide acceptance. In the first place, the differentiation itself may not be an accurate one, since the definition of one degree as being professional implies, through a process of dichotomous thinking, that the other is nonprofessional. By the same token, the connotation that one degree is research-centered and scholarly sets up, by implication, an opposite connotation for the other degree. Such logic, of course, violates the spirit of the differentiation; but the logic, nevertheless, unwholesomely remains intact.

Perhaps this matter will be resolved by an emergence of new thinking which makes use of less confusing terms than "research-scholar" and "practitioner-professional." In all educational leadership, certainly, a combination of these two major orientations is desirable, regardless of degree earned or position held.

It is possible that the profession will come to recognize that both degrees have emerged as generic terms to cover ever-widening spheres, the Ed.D. degree applying to areas almost as remote from the field of education as the Ph.D. degree has come to apply to areas quite removed from philosophy.

For the time being, it seems wise to conclude that either degree will best be understood through its institutional association, rather than from any over-all aim or national statement of divergent functions.

2. Should programs be highly structured and prescriptive or completely flexible? Certainly, this is a question that must be resolved in light of variables operating in each institution. However, institutions that choose either extreme--complete flexibility to meet each candidate's needs or complete prescription with a minimum left to each candidate's own discretion--need to weigh carefully the ramifications of such decisions.

Where few stated requirements prevail and almost complete flexibility is the keynote, devices for determining individual needs and demands for expert counseling become paramount. Such a decision, which may entail the repudiation of any common core of courses, may follow the contention, open to question, that there is no commonality among doctoral graduates.

On the other hand, some institutions may be overly restrictive through the prescription of an abundance of core or tool courses and other requirements, which may preclude an adequate degree of curricular adaptation to each candidate's needs. Therefore, any theory that contends that all doctoral learning is practically a universal core of knowledge and competencies is equally open to question. The common ground between individual specialization and universal breadth of learning needs further investigation before it is irrevocably refuted in practice.

From analyses in this study, higher production seemed to relate to institutions and programs with at least an optimum degree of flexibility. Probably few truly qualified and worthy doctoral aspirants would be drawn to any program with a reputation for over-permissiveness; however, the opposite extreme has no great enticement either. A program characterized by over-prescription, extreme structuring, and, above all, rigidity almost for the sake of rigidity may not only squelch production but may hamper severely educational progress and the dynamism which should characterize doctoral education.

In this sense, it is unfortunate that those necessary programming elements that have emerged to give doctoral study its recognizable form have become known as "hurdles." This usage has perhaps, in some places, gone beyond its humorous origin and has become a symptom of an undue number of restrictions in place of progressive learning experiences.

3. Does the absence of a cognate area or a minimum number of course hours outside the field of education lead to overspecialization? Whether the absence of such course work is considered desirable or not, many institutions in this study reported that no set requirement obtained in this regard.

According to current thought and literature concerning educational leadership in the public schools and at the university level, no one department within the field of graduate education can provide all the essentials for producing thoroughly prepared doctoral graduates. The demands placed upon professional education require breadth of learning and interdisciplinary competency equal to or surpassing most other human endeavors. The engagement of educational workers in interrelationships with other professions and vocational fields calls for insightful behavior based on knowledge of the comprehensive demands of society.

The question of breadth versus specialization may in the long run, like the matter of scholarliness versus professionalism, defy attempts to dichotomize them. If, as a consequence, it can be agreed that doctoral students in education must receive as many experiences in preparing them to understand and deal with other areas of learning as they receive instruction in technical and compartmentalized skills, the question becomes one of procedures for implementation rather than philosophic considerations.

Perhaps the requirement of a set number of course hours outside the field of education or the demand for a cognate major or minor may not be the answer. In all probability, no institution assumes that all that is needed for breadth of learning will be gained through certain prescribed course work. In fact, the practice of prescribing certain broadening courses taught on the upper-divisional undergraduate or master's levels to doctoral candidates with weak academic backgrounds may be highly questionable, particularly if such courses count toward the satisfaction of doctoral requirements. The practice of requiring doctoral candidates to enroll in courses in other departments as missionaries of good will for professional education, as pawns of university politics on the part of the education department, or for any reasons of mere prestige enhancement are indeed dubious, if not wholly irrelevant in the advancement of knowledge.

Internships, properly planned assistantship experiences, and a broadening of admissions requirements may, in the final analysis, serve the purposes of breadth to a greater extent than any combination of course work. At any rate, programming that entails no guarantee of some form of interdepartmental experience for doctoral candidates in education may be producing graduates who are narrowly specialized, overly professionalized, and academically isolated in a profession characterized by a high degree of interpersonal and interdisciplinary relationships.

4. What curricular elements might be expected to undergo modifications? This question implies that there might be a great deal of dissatisfaction over current curricular content as revealed by this study. This, however, was not the case, since little effort was directed toward the determination of the actual course content.

The question relates instead to popular interest in adding a requirement of cognate courses, additional specialized "tools," and provisions for wise flexibility in programming. As an institution expands its core requirements and, at the same time, begins to require a cognate area, existing curricular patterns necessarily are influenced. In the process, either the additional course requirements simply add to the total credit hours required, and consequently add to the length of doctoral preparation, or other courses and classic features are eliminated from set requirements.

The foreign-language requirement has been one of the existing curricular elements of doctoral study about which a few institutions have revised their thinking. Instead of holding irrevocably to the foreign-language requirements, even for the Ph.D. degree, these institutions have either eliminated it in deference to what they call more functional tool requirements or have placed foreign language on an equal basis with other electives to be taken as needed by the individual candidate.

The same type of change in attitude has occurred in relation to the formal dissertation requirement in some universities. Where this requirement was inflexible, consumed an ill-proportioned amount of time, and accounted for a major block of credit hours, changes in some programs have taken place. In these programs the terminal research requirement is now more flexible, but seemingly tends to be just as beneficial to the candidate, if not more so. At the same time, these newer emphases in the doctoral research project permit other innovations to be included in the curriculum.

It would seem that current emphases on interdepartmental approaches to graduate education, intensified efforts to make core requirements more functional, and attempts to make way for more practicum and field experiences all induce a searching re-evaluation of traditional curricular elements, which have been relatively standard for over a half century. Perhaps it can be demonstrated by research that such elements as the foreign-language requirement, the dissertation, and the final oral examination should continue as part of the doctoral program; then again, through re-evaluation these elements may be viewed as merely inherited features, which no longer satisfy contemporary objectives of doctoral education.

5. Should doctoral programs in education be under the control of the graduate college or the college of education? No data in this study would lead directly to the answer to this question. However, the study included several factors that, in juxtaposition, imply that the administrative unit responsible for graduate programs in education will determine the direction in which programming will develop.

College-of-education programs tended toward higher production and appeared to be more flexible in requirements. This factor of flexibility, of course, was to be expected, since many universities have shifted control of the Ed.D. degree away from the graduate college because of its purported inflexibility. Classic criticism of college-of-education control has centered on the contention that its autonomous administration is more lax, resulting in lowered prestige for the degrees involved, usually the Ed.D. However, the opposite of inflexibility is not necessarily laxity, nor, for that matter, is inflexibility in doctoral programming necessarily defensible on grounds other than tradition. It was noted that several large institutions among the participants in the study utilized college-of-education administration of doctoral degrees in education without any apparent fear of jeopardy to their reputations or that of their graduates.

At least two respondents from institutions in which doctoral programs were controlled by the graduate college noted particular difficulty in gaining an equitable voice in policy-determining groups and in obtaining "fair shares" of student financial assistance. Several other respondents expressed a desire to have some scholarship and fellowship funds at the disposal, and solely under the budgetary control, of the college of education.

Together the foregoing factors of production, flexibility of admissions and curricular requirements, and a few financial considerations might lead to the conclusion that control by the college of education is generally preferable.

On the other hand, the study revealed that somewhat greater emphasis was placed by graduate-college administration on breadth of programming through cognate work than was true in college-of-education controlled programs. Here may be an indication that, in deference to the comprehensive type of product sought in doctoral study, graduate-college regulations would best facilitate the broader viewpoint. It would seem that university-wide jurisdiction of the graduate college would enable expedient implementation of proposals for interdepartmental approaches to doctoral study. At least, logic would indicate that centralized graduate-college control would militate against curricular isolation.

Here again the answer to the question would seem to reside in each institutional setting. Perhaps the answer, too, is a compromise or a third alternative--dual control, whereby the two units jointly administer the degree. Such arrangements, however, have been criticized for duplication of function, along with occasional operation at cross purposes, neither of which is necessarily an inherent by-product of the dual arrangement.

While this study did not seek to settle this issue, the data did reveal some of the advantages and disadvantages of these main types of administrative control. Implications were that no strong argument could be advanced to justify the unmistakable necessity for the control to be housed in one unit over the other. Realistic and practical limitations prevalent at present in some institutions evidently precluded adequate administration of doctoral programs in education by the graduate college, regardless of the seemingly sound theory that unitary control over all graduate degrees should be effected if at all possible.

6. Will the present character of production lead to the saturation of some areas of concentration and to the neglect of others? There was some indication in this study that a few areas of concentration, including school administration and guidance and counseling, may eventually face a problem of overproduction if graduates continue to prepare for these areas at the rate they did during the two-year study period. The projection indicated that, at least in the area of school administration, proportionally fewer of the graduates during the decade ahead could be expected. However, the fact remains that almost all the institutions offered doctoral programs, or planned to do so, in school administration, and the highest number of graduates is indicated in this area. At the same time, other areas that may need doctoral leadership were being provided graduates by relatively few institutions. The need for graduates in school administration will have to be weighed carefully against the demand for graduates in teacher education, special education, audio-visual education, and elementary education, to mention but a few. Such an investigation, it seems would be particularly germane for institutions not now offering doctorates in education, but planning to do so in the years ahead.

7. Will the next decade be characterized by more follow-up studies of doctoral graduates in education? This question, of course, remains to be answered. However, one of the outstanding findings of this study was that only four institutions reported that opinions relative to their doctoral drop outs were based on data gathered during formal follow-up research. Regardless of institutional conditions, no argument can be advanced for avoiding the insights which would be available through regular follow-up studies.

Along with analysis of reasons why candidates drop out before graduation, investigations into the placement of graduates should also be valuable. In line with the preceding conclusion concerning areas of concentration, a follow-up to determine the extent of the actual involvement of school-administration graduates in work commensurate with their preparation might reveal that many have necessarily become engaged in other than administrative positions.

8. Should an institution set a maximum age limitation in regard to the admission of doctoral students? One very direct method of controlling who shall receive doctorates is, of course, a maximum age requirement. If such a policy were irrevocably

set by all institutions, naturally the influence on the age of doctoral graduates would be immediate. Research is not available to justify any sweeping national change in this regard. However, the practice of admitting a great many persons for whom the doctorate will mean, because of their advanced age, little or nothing vocationally is a dubious one in light of restricted resources available to doctoral candidates in education. Only a minority of the institutions involved have either set age requirements or have stated a preferred maximum age. It might be well for all institutions to consider ways of concentrating on the education of younger men and women whose careers in the profession are essentially ahead of them.

9. Is there a need for more institutions to think in terms of selective recruitment? This study pointed up the need for more organized efforts to identify and encourage qualified persons to work toward the doctorate. Many institutions reported little or no recruitment activity of a formal nature. A formalized, high-pressure endeavor is probably not the answer. A program that operates with an awareness of, and capitalizes on, the wide variety of informal media available for the encouragement of promising candidates is to be preferred. The lack of any recruitment awareness leaves the admission process largely to chance and almost devoid of preadmission selection.

The most prominently mentioned recruitment devices centered on the use of the "personal touch" through alumni, letters, faculty contacts, or some other means of "spotting" the person of ability who should be urged to advance in the profession. It seems that such practices would not only help to increase the present level of production but should result in the enrollment of competent persons who can be relied upon to complete their programs with distinction. Recruitment then becomes not only a service to the worthy candidate and the institution but a genuine service to the entire profession as well. Selective recruitment may tend to locate many of the calibre of motivated students who are more willing and better able to withstand the hardships connected with doctoral study, including financial strain.

Associated with recruitment, but involving other influential factors as well, is the question of program expansion by several institutions. This study did not clearly reveal the reason or reasons why some institutions with a seemingly adequate capacity for sizable production, and with programs of long-standing, were among the group of low-producing institutions. Granted that production fluctuates quite noticeably, even from year to year, in each institution, the observation still seems to hold that several institutions may be able to contribute consistently more to the supply of doctoral graduates than they were doing during the years 1956-58.

10. Will financial aid be adequate to meet the needs of the projected influx of candidates? The answer to this question will probably be in the negative if the present level of financial assistance is maintained, even on a proportional basis, during the years to come. This study added verification to what is, and has been, generally true of graduate education--the critical nature of financial assistance for students.

Throughout the study, the financial picture was not a bright one. Student loans were particularly lacking. However, the National Defense Education Act was implemented after data for this study were gathered. This legislation promises to brighten the picture appreciably.

It would seem that a financial program that would enable many candidates to continue their study on an intensified basis, without undue concern over personal and family finance, is greatly needed. The concept of packaging several forms of financial aid (loans, scholarships, assistantships) for resident students is one of the ways of producing remuneration of a self-sustaining nature. The rising costs of living will tend to make the usual single form of aid even less attractive, unless that aid is unusually liberal.

Any attempt to encourage a younger group of candidates will naturally heighten the necessity for increased financial assistance. In the near future, tuition benefits for veterans, usually associated with younger candidates, will apparently not be available. Either additional financial sources will have to be tapped or the attitude toward residence will automatically undergo serious and perhaps damaging modifications, to mention but one alternative.

Also related to the financial situation is the fact that many institutions need to locate more money with which to construct adequate housing facilities to be made available to doctoral candidates and their families. This study revealed the great need that exists for improved housing for these advanced graduate students.

Finding money for direct subsidization of doctoral candidates, therefore, is not the only problem to be solved in the area of finance. In addition to the provision of more money for fellowships, assistantships, and other student-aid programs, institutions need to divert funds into channels which have an indirect, but important, influence on the pursuit of the doctorate.

11. What effect do institutional controls have upon the time spent by each candidate in his program from initial admission to graduation? Naturally, many variables, including finance and the candidate's employment while in the program, are related to this question. However, this study revealed considerable variability on the part of institutions relative to the

recommended maximum period of time a candidate should expect to give to his doctoral pursuit. It was noteworthy that many of the high-producing institutions stressed a shorter period of time in their set requirements. Other institutions recommended time maximums approaching a decade or more! Because of the age of many candidates at the time of their initial admission, such a highly flexible recommendation seems to be questionable, to mention but one of the many factors related to the time maximum. Improvement in doctoral education, both for the candidate and the profession, would in all probability result from the perception of doctoral study as a process to be completed with as much dispatch as possible without a sacrifice in quality. "The longer it takes, the better" is hardly a realistic attitude conducive to quality, any more than a hastily acquired "watered-down" program is.

Institutional-control factors that seem to relate to the expeditious movement of candidates through their programs include: (a) the adequacy of initial counseling with emphasis on the clarification of goal determination at the outset; (b) the early elevation of doctoral students to at least a preliminary candidacy so that they realize they are moving seriously toward their goal, (c) the availability of various forms of financial assistance, (d) adequate guidance during the selection of a dissertation topic that can be dealt with in realistic time limits, (e) some form of extra financial assistance in accomplishing the dissertation, and (f) certainly the continued attention and encouragement by the faculty throughout the program so that there is a steady consciousness by the candidate of the advantages inherent in the early completion of his program. The factors relative to the dissertation could probably operate more efficiently if full-time residence and commensurate financial resources were available to the candidate during the last year of his program.

It would seem especially wise to hasten the process of goal determination on the part of doctoral students, many of whom may have drifted into the program almost by chance. Any form of planning to avoid a continued drift throughout the program would be all to the good.

RECOMMENDATIONS FOR FURTHER STUDY

The following additional areas are recommended for further study, either through continued analysis of data gathered for this study, through other research media, or both.

There is need for some determination of the actual demand for doctoral graduates in each of the major areas of concentration. Both actual and projected production reported in this study revealed what appeared to be the probability of overproduction in several areas of concentration. At the same time, production in other areas appeared to be low.

In addition to a quantitative analysis of the demand for graduates in each area of concentration, a study of regional demands and production should be conducted. There was considerable disparity in production rates in each of the various geographic regions of the nation. Regional production of doctoral graduates in education, when related to the general population, indicated the apparent overproduction in a few regions and underproduction in others. Perhaps regional needs for doctoral graduates are not comparable, thereby minimizing the importance of the divergent pattern of production by regions. Nevertheless, this is a problem that warrants further investigation.

As mentioned in the conclusions, a comprehensive follow-up of graduates should be conducted to determine the nature of their placement in relation to their doctoral preparation. Such an analysis could reveal the extent to which graduates were finding positions suited to their goals and doctoral education. This analysis could also include an attempt to determine the influence doctoral study had on the facilitation of proper placement and job success.

This study revealed a serious lack of information on the causes for doctoral dropouts. A comprehensive study, perhaps on a national scale, needs to be conducted on this problem.

The urgent problem of acquiring sufficiently qualified faculty personnel to staff colleges of education promises to be a continuing one. In addition to the quantitative aspects of this problem, there is an equally urgent need to consider the qualitative aspects of it. It would seem worthwhile to investigate the adequacy of present doctoral programs for the preparation of persons seeking positions as college teachers of professional education.

One of the methods for recruiting additional doctoral candidates has been the use of co-operative arrangements among institutions. Such arrangements have included various relationships between institutions that do and that do not grant the doctorate. An evaluation of these arrangements should be made, along with further explorations into the possibilities for experimenting with a variety of similar co-operative relationships.

Since more and more institutions are expressing an interest in adding doctoral programs in education, further investigation needs to be directed to a determination of the necessary resources and conditions that should prevail in a university to maximize the probability of success of doctoral programs.

Continued study needs to be made of the institutional controls and conditions that have the greatest effect on the time needed for the pursuit of the doctoral degree in education.

One of the most obvious areas needing continued study is that of finance. Investigations should be made to determine the extent of influence that financial conditions have on the pursuit of doctoral degrees. Determination should also be made of the feasibility of developing new sources and methods of financing doctoral study. The advisability of centralized institutional control of financial support for graduate students likewise needs further study.

In order to investigate further the extent of differentiation that exists between the two doctoral degrees in education and to determine the influence Ph.D. degree requirements have had on the development of the Ed.D. degree, it is recommended that a comparison be made between Ed.D. programs offered in institutions that also offer Ph.D. programs in education and Ed.D. programs offered in other institutions as the only education doctorate.

APPENDIX

TABLE A.--GENERAL INFORMATION ON TOTAL GROUP OF INSTITUTIONS OFFERING DOCTORATES IN EDUCATION, 1956-58

Institutions	Type of institution	Ed.D. first granted	Ph.D. first granted	Administrative responsibility[a]	
				Ed.D.	Ph.D.
1	2	3	4	5	6
Alabama					
+Auburn University	State university	1955	...	G	...
+University of Alabama	State university	1953	1958	E	G
Arizona					
+Arizona State University	State university	1954	...	E	...
University of Arizona	State university	1952	1926	G	G
Arkansas					
University of Arkansas[b]	State university	Unknown	...	Unknown	...
California					
+University of California (Berkeley)	State university	1924	1898	G	G
+University of California (Los Angeles)	State university	1944	...	D	...
Claremont Graduate School[b]	Private university	...	Unknown	...	Unknown
+College of the Pacific	Private university	1954	...	G	...
University of Southern California[b]	Private university	1931[c]	Unknown	Unknown	Unknown
+Stanford University	Private university	1929	1916	D	D
Colorado					
+Colorado State College	State teachers college	1941	No longer offered	G	...
University of Colorado[b]	State university	1944[c]	Unknown	Unknown	Unknown
+University of Denver	Private university	1943	1953	D	D
Connecticut					
+University of Connecticut	State university	...	1950	...	G
District of Columbia					
Catholic University of America	Private university	...	1906	...	G
+George Washington University	Private university	1933	...	E	...
Florida					
+Florida State University	State university	1952	1955	D	D
+University of Florida	State university	1947	...	G	...
Georgia					
+University of Georgia	State university	1948	No longer offered	G	...
Illinois					
+Bradley University	Private university	1950	1952	D	D
+University of Chicago	Private university	...	1901	...	E
+University of Illinois[b]	State university	1946[c]	Unknown	Unknown	Unknown
+Loyola University (Chicago)	Private university	1951	1928	G	G
+Northwestern University	Private university	1922	1944	G	G
Indiana					
+Indiana University	State university	1927	1924	E	G
University of Notre Dame[b]	Private university	...	Unknown	...	Unknown
+Purdue University	State university	...	1949	...	G
Iowa					
Iowa State University	State university	...	1943	...	G
+State University of Iowa[b]	State university	...	Unknown	...	Unknown
Kansas					
+University of Kansas	State university	1941	1920	G	G
Kentucky					
+University of Kentucky	State university	1947[c]	Unknown	G	G
Louisiana					
+Louisiana State University	State university	Intend to add	1935	...	G
Maryland					
Johns Hopkins University[b]	Private university	1930[c]	Unknown	Unknown	Unknown
+University of Maryland	State university	1949	1943	G	G
Massachusetts					
+Boston University	Private university	1932	None yet	E	G
+Harvard University	Private university	1921	1910	E	G
Radcliffe College	Private university	...	Unknown	...	G

TABLE A.--GENERAL INFORMATION ON TOTAL GROUP OF INSTITUTIONS OFFERING DOCTORATES IN EDUCATION, 1956-58 (Continued)

Institutions	Type of institution	Ed.D. first granted	Ph.D. first granted	Administrative responsibility[a]	
				Ed.D.	Ph.D.
1	2	3	4	5	6
Michigan					
+Michigan State University	State university	1945	1925	G	G
+University of Michigan	State university	1948	1902	G	G
+Wayne State University	State university	1949	...	D	...
Minnesota					
+University of Minnesota	State university	...	1917	...	G
Mississippi					
+University of Mississippi	State university	1953	1955	G	G
Missouri					
+University of Missouri	State university	1937	1916	G	G
+Saint Louis University	Private university	...	1932	...	G
+Washington University	Private university	1936	1938	G	G
Montana					
+Montana State College	State general college	1958	Intend to add	G	...
+Montana State University	State university	1958	...	G	...
Nebraska					
+University of Nebraska	State university	1954	1915	E	G
New Jersey					
+Rutgers University	State university	1931	...	G	...
New York					
+University of Buffalo	Private university	1934	...	E	...
+Teachers College, Columbia University	Private university	1935	1898	E	G
Cornell University	Private university	1949[c]	Unknown	E	G
+Fordham University	Private university	Intend to add	1916	...	G
+New York University	Private university	1934	1922	E	E
+St. John's University	Private university	None yet	1950	E	E
+Syracuse University	Private university	1935	1937	E	G
+Yeshiva University	Private university	None yet	1958	E	E
North Carolina					
Duke University	Private university	1952	...	E	...
North Carolina College (Durham)	State general college	...	1955	...	G
+University of North Carolina	State university	1954	1926	G	G
North Dakota					
+University of North Dakota	State university	1930	1929	G	G
Ohio					
+University of Cincinnati	Municipal	1934	...	E	...
+Ohio State University	State university	...	1922	...	G
Western Reserve University	Private university	1941	1931	G	G
Oklahoma					
+Oklahoma State University	State university	1942	Intend to add	G	...
+University of Oklahoma	State university	1931	Unknown	G	G
+University of Tulsa	Private university	1954	...	G	...
Oregon					
+Oregon State College	State university	1936	...	G	...
+University of Oregon	State university	1942[c]	1927	G	G
Pennsylvania					
Dropsie College[b]	Private university	1950[c]	Unknown	Unknown	Unknown
+Pennsylvania State University	State university	1931	1927	G	G
+Temple University	Private university	1928	...	E	...
+University of Pennsylvania	Private university	1944	1910	D	D
+University of Pittsburgh	Private university	1933	1916	E	E
South Carolina					
University of South Carolina	State university	...	1923	...	G

TABLE A.--GENERAL INFORMATION ON TOTAL GROUP OF INSTITUTIONS OFFERING DOCTORATES IN EDUCATION, 1956-58 (Continued)

Institutions	Type of institution	Ed.D. first granted	Ph.D. first granted	Administrative responsibility[a]	
				Ed.D.	Ph.D.
1	2	3	4	5	6
Tennessee					
+George Peabody College for Teachers	Private teachers college	1951	1919	G	G
+University of Tennessee	State university	1950	...	G	...
Texas					
+Baylor University	Private university	1955	...	E	...
+University of Houston	Municipal university	1947	...	E	...
+North Texas State College	State general college	1950	...	G	...
+Texas Woman's University[b]	State university	1937[c]	Unknown	Unknown	Unknown
Texas Technological College	State general college	1953	...	G	...
+University of Texas	State university	1930	1920	G	G
Utah					
+Utah State University	State university	1954	...	G	...
+University of Utah	State university	1950	1949	G	G
Virginia					
+University of Virginia	State university	1952	1922	E	G
Washington					
+Washington State University	State general college	1950	1938	G	G
University of Washington[b]	State university	1948[c]	Unknown	Unknown	Unknown
West Virginia					
+West Virginia University	State university	1956	...	G	...
Wisconsin					
+University of Wisconsin	State university	...	1911	...	G
Wyoming					
+University of Wyoming	State university	1948	1947	G	G

+Denotes AACTE membership.

[a] "G" indicates that responsibility for the degree resides with the graduate college; "E" indicates that this responsibility resides with the education unit (division, department, school, or college); and "D" that the degree is administered jointly by the education unit and the graduate college.

[b] These institutions did not return questionnaires. Actually, Dropsie College did not receive one since it was identified as belonging in the study several months after the questionnaires were sent out.

[c] The source for these dates was as follows: Saalbach, Raymond C. Current Practices in the Requirements for the Doctor of Education Degree. Unpublished doctoral dissertation. Philadelphia: University of Pennsylvania, 1952.

TABLE B.--INSTITUTIONS THAT GRANTED SIXTH-YEAR DEGREES, 1958-59

Institutions	Year degree was first granted	Type of insti- tution
1	2	3
Alabama		
University of Alabama[a]	1956	Public
Arizona		
Arizona State College (Flagstaff)	1957	Public
Arizona State University[a]	None yet	Public
Arkansas		
University of Arkansas[a]	1953	Public
California		
Stanford University[a]	1934	Private
University of Southern California[a]	1939	Private
Colorado		
Colorado State College[a]	1947	Public
University of Colorado[a]	Unknown	Public
University of Denver[a]	1947	Private
Western State College	1958	Public
Connecticut		
Fairfield University	1954	Private
Hillyer College of the University of Hartford	1953	Private
University of Bridgeport	1955	Private
University of Connecticut[a]	1954	Public
District of Columbia		
George Washington University[a]	1955	Private
Gallaudet College	1954	Public
Florida		
Florida State University[a]	1954	Public
University of Florida[a]	1955	Public
Illinois		
DePaul University	1955	Private
Northwestern University[a]	Unknown	Private
Southern Illinois University[a]	1955	Public
University of Chicago[a]	1958	Private
University of Illinois[a]	1941	Public
Indiana		
Ball State Teachers College	1959	Public
Indiana State Teachers College	1959	Public
Indiana University[a]	None yet	Public
Kansas		
Kansas State Teachers College (Emporia)	1959	Public
Kansas State Teachers College (Pittsburg)	1959	Public
University of Kansas[a]	1954	Public
Kentucky		
University of Kentucky[a]	1959	Public
University of Louisville	1955	Public
Maryland		
Johns Hopkins University[a]	1933	Private
Massachusetts		
Boston College[a]	1954	Private
Boston University[a]	1934	Private
Harvard University[a]	1951	Private
University of Massachusetts	1930	Public
Minnesota		
University of Minnesota[a]	Unknown	Public
Mississippi		
Mississippi Southern College	1953	Public
University of Mississippi[a]	1956	Public
Missouri		
University of Missouri[a]	1957	Public
Washington University[a]	1958	Private
New Jersey		
Rutgers University[a]	1954	Public
New Mexico		
New Mexico State University	1956	Public
New York		
Adelphi College	1955	Private
Brooklyn College	1953	Public
Teachers College, Columbia Univ.[a]	1935	Private
Long Island University[a]	1951	Private
New York University[a]	1953	Private
Syracuse University[a]	1954	Private
University of Rochester	1958	Private
Oklahoma		
Oklahoma State University[a]	None yet	Public
University of Oklahoma[a]	None yet	Public
University of Tulsa[a]	1952	Private
Oregon		
University of Oregon[a]	1958	Public
Tennessee		
George Peabody College for Teachers[a]	1935	Private
Virginia		
University of Virginia[a]	1954	Public
Washington		
College of Puget Sound	1939	Private
West Virginia		
West Virginia University[a]	None yet	Public
Wyoming		
University of Wyoming[a]	1946	Public

[a] Also grants doctoral degrees in education.

TABLE C.--INSTITUTIONS PLANNING ADDITIONAL GRADUATE PROGRAMS IN EDUCATION ABOVE THE MASTER'S DEGREE

	Year degree will be granted		
Institutions	Sixth-year	Ed.D.	Ph.D.
1	2	3	4
California			
Immaculate Heart College	...	...	1968
University of Redlands	Unknown	...	...
Colorado			
Adams State College	1967	...	...
Connecticut			
Hillyer College of the University of Hartford	c	1965	1965
University of Bridgeport	c	1963	...
Florida			
University of Miami	...	1961	1961
Idaho			
University of Idaho	...	1962	1962
Illinois			
Northern Illinois University	1960	1966	1966
Southern Illinois University[a]	c	...	1960
Indiana			
Ball State Teachers College	c	1962	1963
Iowa			
Iowa State Teachers College	1961	1970	...
Kansas			
Fort Hays Kansas State College	1961	...	...
University of Wichita	1964	...	1962
Louisiana			
Louisiana State University[b]	...	Unknown	c
Northwestern State College	1962	...	...
Maryland			
University of Maryland[b]	Unknown	c	c
Massachusetts			
Boston College	c	c	1960
University of Massachusetts	c	1961	...
Michigan			
Eastern Michigan University	1963	...	...
Western Michigan University	1962	1965	1965
Mississippi			
Mississippi Southern College	...	1961	1961
Missouri			
Central Missouri State College	1960	...	...
Montana			
Montana State College	...	c	Unknown
New Mexico			
New Mexico Western College	1961	...	...
University of New Mexico[a]	1960	c	Unknown
New York			
Fordham University[b]	...	Unknown	c
Long Island University	c	1964	...
St. Bonaventure University	...	...	1963
St. John's University[b]	Unknown	c	c
University of Buffalo[b]	Unknown	c	...
University of Rochester	c	1963	...
Nevada			
University of Nevada	1963	...	...
Ohio			
Bowling Green State University	1965	...	1970
Kent State University	...	...	1963
Ohio University (Athens)	1961	...	1961
University of Toledo	...	1963	1963

TABLE C.--INSTITUTIONS PLANNING ADDITIONAL GRADUATE PROGRAMS IN EDUCATION ABOVE THE MASTER'S DEGREE (Continued)

Institutions	Year degree will be granted		
	Sixth-year	Ed.D.	Ph.D.
1	2	3	4
Oklahoma			
Oklahoma State University	c	c	Unknown
Pennsylvania			
Duquesne University	...	Unknown	Unknown
Lehigh University	1961	1962	...
Rhode Island			
Rhode Island College of Education	1965	...	...
University of Rhode Island	1962	...	...
South Dakota			
State University of South Dakota[a]	1961	c	...
Tennessee			
University of Tennessee[b]	Unknown	c	...
Texas			
East Texas State College	1959	1964	1969
Texas A. and M.	...	1963	...
Texas Christian University	...	...	Unknown
Utah			
Brigham Young University	...	1961	1962
University of Utah[b]	Unknown	c	c
Washington			
College of Puget Sound	c	...	1964
Wisconsin			
Marquette University	...	...	1965
Wisconsin State College (Superior)	1964	...	...

[a] Southern Illinois University and the University of New Mexico have doctoral programs under way, but have not granted any degrees as yet. The State University of South Dakota granted its first doctoral degree in education in 1959. None of these universities, therefore, was included in the study.

[b] These universities were among the original 92 institutions included in the institutional phase. They are included on the above list because of the additional program they are planning to enter.

[c] Indicates that the institution already grants this degree.

SOURCES FOR YEARS SHOWN IN FIGURE III

1891. Letter to the investigator, from Lydia P. Colby, registrar, Clark University, Worcester, Mass., October 19, 1959.

1908, 1912. "The Doctor of Philosophy Degree Conferred by American Universities." School and Society 5:145, February 3, 1917.

1916, 1920. West, C. J., and Hall, C. "Doctorates Conferred in the Arts and Sciences by American Universities, 1921-22." School and Society 17:57-63, January 20, 1923.

1926. Monroe, W. S. "Doctor's Degrees in Education, 1928-33." School and Society 37:289-90, March 4, 1933.

1930, 1940. Hollis, E. V. "A Comparison of the Ed.D. and the Ph.D." School Review 54:77-82, February 1946.

1949. Story, Robert C. Earned Degrees Conferred by Higher Educational Institutions, 1948-49. U.S. Office of Education, Federal Security Agency, Circular No. 262. Washington, D.C.: Superintendent of Documents, Government Printing Office, 1949.

1950. ———. Earned Degrees Conferred by Higher Educational Institutions, 1949-50. U.S. Office of Education, Federal Security Agency, Circular No. 282. Washington, D.C.: Superintendent of Documents, Government Printing Office, 1950.

1955. Rice, Mabel C., and Carlson, Neva A. Earned Degrees Conferred by Higher Educational Institutions, 1954-55. U.S. Department of Health, Education, and Welfare, Office of Education, Circular No. 461. Washington, D.C.: Superintendent of Documents, Government Printing Office, 1955.

1956. ———. Earned Degrees Conferred by Higher Educational Institutions, 1955-56. U.S. Department of Health, Education, and Welfare, Office of Education, Circular No. 499. Washington, D.C.: Superintendent of Documents, Government Printing Office, 1957.

1957. Data from the Administrators Questionnaires from eighty responding institutions involved in the present study.

Data on the twelve institutions in the study which did not furnish the information through questionnaires were obtained from the following source:

Gertler, Diane B., and Keith, Virginia W. Earned Degrees Conferred by Higher Educational Institutions, 1956-57. U.S. Department of Health, Education, and Welfare, Office of Education, Circular No. 527. Washington, D.C.: Superintendent of Documents, Government Printing Office, 1958.

This source furnished data on five institutions not in the AACTE study. See also footnote 1, page 11.

1958. Gertler, Diane B. Earned Degrees Conferred by Higher Educational Institutions, 1957-58. U.S. Department of Health, Education, and Welfare, Office of Education, Circular No. 570. Washington, D.C.: Superintendent of Documents, Government Printing Office, 1959.

SOURCES FOR YEARS SHOWN IN FIGURE IV

1949. Story, Robert C. Earned Degrees Conferred by Higher Educational Institutions, 1948-49. U.S. Office of Education, Federal Security Agency, Circular No. 262. Washington, D.C.: Superintendent of Documents, Government Printing Office, 1949.

1950. ________. Earned Degrees Conferred by Higher Educational Institutions, 1949-50. U.S. Office of Education, Federal Security Agency, Circular No. 282. Washington, D.C.: Superintendent of Documents, Government Printing Office, 1950.

1951. ________. Earned Degrees Conferred by Higher Educational Institutions, 1950-51. U.S. Office of Education, Federal Security Agency, Circular No. 333. Washington, D.C.: Superintendent of Documents, Government Printing Office, 1952.

1952. ________. Earned Degrees Conferred by Higher Educational Institutions, 1951-52. U.S. Office of Education, Federal Security Agency, Circular No. 360. Washington, D.C.: Superintendent of Documents, Government Printing Office, 1952.

1953. Rice, Mabel C., and Carlson, Neva A. Earned Degrees Conferred by Higher Educational Institutions, 1952-53. U.S. Department of Health, Education, and Welfare, Office of Education, Circular No. 380. Washington, D.C.: Superintendent of Documents, Government Printing Office, 1953.

1954. ________. Earned Degrees Conferred by Higher Educational Institutions, 1953-54. U.S. Department of Health, Education, and Welfare, Office of Education, Circular No. 418. Washington, D.C.: Superintendent of Documents, Government Printing Office, 1954.

1955. ________. Earned Degrees Conferred by Higher Educational Institutions, 1954-55. U.S. Department of Health, Education, and Welfare, Office of Education, Circular No. 461. Washington, D.C.: Superintendent of Documents, Government Printing Office, 1955.

1956. Rice, Mabel C., and Poole, Hazel. Earned Degrees Conferred by Higher Educational Institutions, 1955-56. U.S. Department of Health, Education, and Welfare, Office of Education, Circular No. 499. Washington, D.C.: Superintendent of Documents, Government Printing Office, 1957.

1957. Data from the Administrators Questionnaires from eighty responding institutions involved in the present study.

Data on the twelve institutions in the study that did not furnish the information through questionnaires were obtained from the following source:

Gertler, Diane B., and Keith, Virginia W. Earned Degrees Conferred by Higher Educational Institutions, 1956-57. U.S. Department of Health, Education, and Welfare, Office of Education, Circular No. 527. Washington, D.C.: Superintendent of Documents, Government Printing Office, 1958.

The foregoing source also furnished data on five institutions not in the AACTE study. See also footnote 1, p. 11.

1958. Gertler, Diane B. Earned Degrees Conferred by Higher Educational Institutions, 1957-58. U.S. Department of Health, Education, and Welfare, Office of Education, Circular No. 570. Washington, D.C.: Superintendent of Documents, Government Printing Office, 1959.